ORDER NO. VRD-8510-231

Service Manual

Dubbing Video Cassette Recorder

National/Panasonic VHS Hi-Fi
Professional/Industrial Video
PAL

AG-6810S-E -B -A

Operating Instructions
Mechanical Adjustment Procedures
Electrical Adjustment Procedures
Block Diagrams
Schematic Diagrams
Circuit Board Diagrams
Exploded Views
Replacement Part Lists

Panasonic
Hi-Fi Audio HD

SPECIFICATIONS

Power Source: 110/120/220/240V AC, 50/60Hz
Power Consumption: Approx. 60 watts
Television System: CCIR Standard (625 lines, 50 fields)
PAL colour signal
Video Recording System: 2 rotary heads, helical scanning system
Luminance: FM azimuth recording
Color signal: converted subcarrier phase shift recording
Audio Tracks: 4 channels
NORMAL (CH1/CH2): 2 fixed head tracks
HD (CH1/CH2): 2 rotary head tracks
Tape Format: Tape width 1/2 inch (12.7mm), high density tape
Tape Speed: 23.39mm/s (Normal)
Record/Playback Time: 240min. with NV-E240
FF/REW Time: Less than 6min with NV-E240
Input Level: Video: VIDEO IN (BNC), 1.0Vp-p, 75Ω
Audio: LINE IN (Phono Jack);
NORMAL (CH1/CH2) −20dB
HD (CH1/CH2) −20dB
(standard input −8dB), 47kΩ
Output Level: Video: VIDEO OUT (BNC), 1.0Vp-p, 75Ω
Audio: AUDIO OUT (Phono);
NORMAL (CH1/CH2) −8dB, 1kΩ
HD (CH1/CH2)
HEADPHONES,
−16dB∼−60dB, 8Ω
HD Recording Remote: (Phono Jack), maintained contact switched closure
HD/NORMAL Remote: (Phono Jack), maintained contact switched closure
Rec Remote: (Phono Jack)
Video Horizontal Resolution: Colour: more than 240 lines
B/W: more than 300 lines
(on monoscope test pattern)
Audio Frequency Response: 50∼12,000Hz (Normal Audio)
20∼20,000Hz (HD Sound)
Signal-to-Noise Ratio: Video: B/W: better than 43dB
Colour: better than 43dB
(Shibasoku noise meter)
Audio: better than 48dB (Normal Audio/Dolby NR IN)
Audio Dynamic Range: better than 80dB (HD Sound)
Wow and Flutter: less than 0.005% (HD Sound)
Operating Temperature: 41°F∼95°F (5°C∼35°C)
Operating Humidity: 35%∼80%
Weight: 14.2kg
Dimensions: 430(W)×392(D)×158(H)mm
Accessory Supplied: 2 pcs. Caps for protecting sound volume
Optional Accessory: Rack-mounting Frame AG-M600
Dubbing controller AG-A100
A/V Distribntor AG-DA100
A/V Switcher AG-SW100
Remote Controller AG-A600, NV-A505

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

* Noise reduction manufactured under license from Dolby Laboratories Licencing Corporation.

National/Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

INTRODUCTION

This Service Manual contains technical information which will allow service technicians to understand and service the high performance 1/2" HD (Hi-Fi) dubbing video cassette recorder Model AG-6810S.
The Panasonic AG-6810S HD dubbing video cassette recorder is especially designed for HD sound dubbing with a wide variety of special features, an aluminum die-cast chassis, a DD cylinder, full logic control, see-through front loading, a remote HD/NORMAL audio monitor control through MONITOR connector, a remote HD and NORMAL/NORMAL audio recording control through HD REC connector, loop through recording through REC REMOTE connectors which can be connected 500 units with 19" rack and mode lock function.
These features in addition to the basic PAL VHS format, these features make the AG-6810S an ideal unit for business application.

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For Your Safety

1. THIS APPARATUS MUST BE EARTHED.

To ensure safe operation the three-pin plug supplied (not U.K. model) must be inserted only into a standard three-pin power point which is effectively earthed through the normal household wiring. Extension cords used with the equipment must be three-core and be correctly wired to provide connection to earth. Wrongly wired extension cords are a major cause of fatalities.

The fact that the equipment operates satisfactorily does not imply that the power point is earthed and that the installation is completely safe. For your safety, if in any doubt about the effective earthing of the power point, consult a qualified electrician.

2. VOLTAGE SELECTOR SETTING.

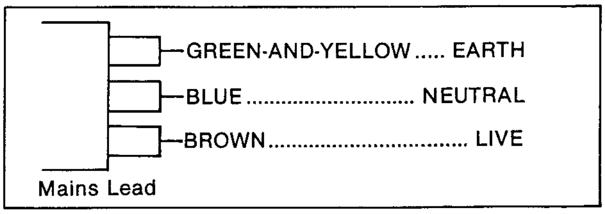
The power cord of this unit must be disconnected from mains before the voltage selector is changed.

Before connecting to the power supply, ensure that the selector on the rear panel is selected to the same voltage as your local power supply.

This voltage selector can be adjusted, if necessary, by using a screwdriver, but this adjustment must be made after disconnecting the the power cord.

3. AC POWER CORD CONNECTION.
(AG-6810 U.K. only)

The wires in mains lead for this apparatus are coloured in accordance with the following cord.


GREEN-AND-YELLOW..... EARTH
BLUE.......................... NEUTRAL
BROWN.............................. LIVE
Mains Lead

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol or coloured GREEN or GREEN-AND-YELLOW.

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured red.

Remark:

This apparatus was produced to BS 800:1977.

Dieses Modell entspricht der EG-Vorschrift (für Funkstörungsschutz) 82/499/EG.

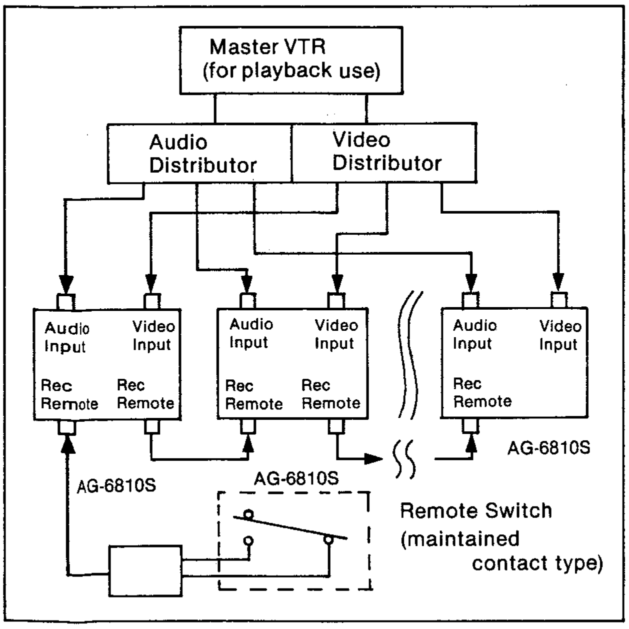
La Société PANASONIC-FRANCE, importateur du matériel MATSUSHITA-JAPON déclare que cet appareil est conforme aux prescriptions. de la directive 76/889/C.E.E. (arrêté du 14 janvier 1980).

Dit model is onderworpen aan de EEG-richtlijn (ter voorkoming van radio-interferentie) 82/499/EEG.

Denne model opfylder EF direktiv 82/499/EF (for forebyggelse af radiointerferens).

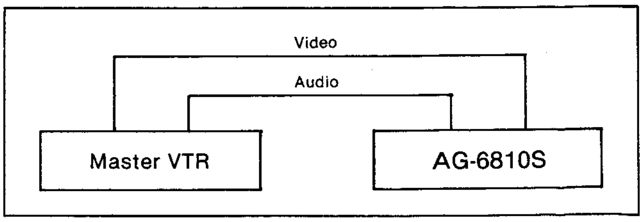
Dubbing System I

Two or more of these units can be connected for mass production copying of a tape.

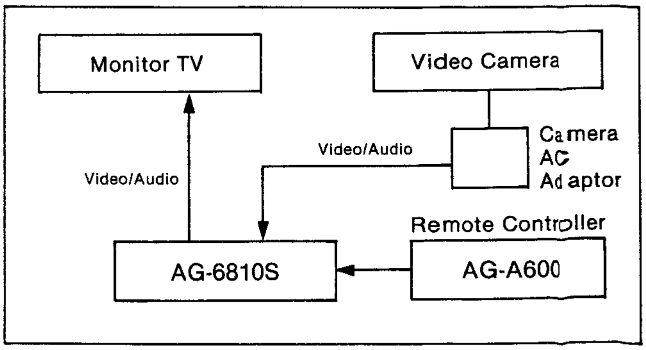

Master VTR
(for playback use)
Audio Distributor
Video Distributor
Audio Input
Video Input
Rec Remote
Rec Remote
AG-6810S
Audio Input
Video Input
Rec Remote
Rec Remote
AG-6810S
Audio Input
Video Input
Rec Remote
AG-6810S
Remote Switch
(maintained
contact type)

Dubbing System II

This is a basic dubbing system; the contents of a master tape are copied.


Video
Audio
Master VTR
AG-6810S

Recording and Playback


Monitor TV
Video Camera
Camera
AC
Adaptor
Video/Audio
Video/Audio
Remote Controller
AG-6810S
AG-A600

Inspection

Standard Accessories

After removing the unit from its box, check to be sure it has not sustained any damage. Also check to see that you have the following accessory as pictured below.

Cap for protecting sound volume Part No. VFK0358 2 pcs.

Optional Accessories

1. Dubbing Controller: AG-A100
2. A/V Distributor: AG-DA100
3. A/V Switcher: AG-SW100
4. Remote Controller: AG-A600, NV-A505
5. Rack-mounting Lack: AG-M600
6. Serial Interface Decoder: AG-IA10
7. Serial Interface Controller: AG-IA11

Features

1. FM audio recording (HD sound)

The FM recording system records an audio signal that has been converted to a wide-band FM signal on tape. HD sound recordings use 2 rotating heads exclusively for audio recording. This makes it possible to obtain sound recordings that are superior in frequency characteristics, wow and flutter, and dynamic range to normal audio recordings made with fixed heads. (HD sound is an abbreviation of High Dynamic Sound.)

2. Series recording (special for dubbing use)

By providing an on/off type remote control box, it is possible to do series recording from a Master VTR onto a maximum of 500 AG-6810 units (connected in series) at one time. In this series recording, with the remote control box from ON to OFF, the following operations can be performed by means of adjustments inside the main unit.

(If you wish to have these adjustments made please consult your dealer.)

A. The VTR can be stopped automatically during recording.

B. The VTR can be paused automatically during recording.

C. During recording the tape can be rewound to the beginning, the VTR stopped and the tape automatically removed.

D. During recording the VTR can be stopped and the tape automatically removed (the unit is shipped from the factory in this mode).

3. Audio input and output jacks for normal audio and HD sound

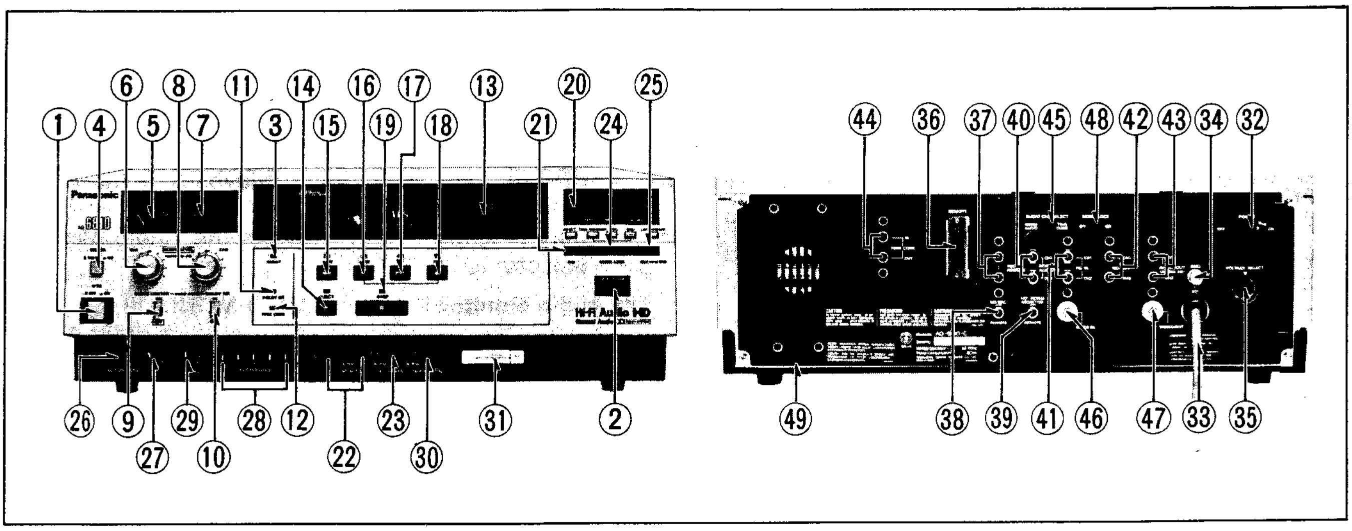
There are independent input and output jacks for normal sound and HD sound on the rear panel.

An audio input signal that is connected to the normal audio input jack is automatically connected through to the HD sound input jack.

Other characteristics

- An audio limiter circuit is built in (only for normal audio).
  During normal audio recording, the limiter circuit acts on excessively loud input.
- A Dolby NR* System is built in for normal audio.
- Meters are included for use in adjusting the audio recording volume.
- Automatic Rewind at Tape End "ON/OFF" selectability (internal switch).
- Mode lock switching with indicator lamp: when one button is being operated, other buttons become inoperative.
- There is a connecting jack for time code signal use.
- Elapsed time can be indicated on a counter during recording.
- There is an indicator showing how much tape is left.
- There is a headphone volume adjustment.
- It is possible to see the tape directly by the mirror in the front loading mechanism.
- The unit is front loading.
- There is an hour meter.
- There is a fan motor.
- The VTR can be stored on an EIA standard 19-inch rack.
- HD and normal sounds recording without video signals.
- HD sound recording "ON/OFF" selectability.
- Remote control is possible for ON/OFF switching of HD sound audio recording.
- Remote control is possible for ON/OFF switching of HD sound audio monitoring.
  *When the HD sound is switched to OFF, the normal audio will be obtained.
- Test terminals
  The head output of video and HD sound can be confirmed with an oscilloscope at the test terminals provided on the front panel.
- "Eject/Auto OFF" lamp
  When no cassette tape has been inserted or when there is dew inside this unit, this lamp lights, and it flashes in case of trouble with the tape run system.
- ON/OFF switching is possible for short FF. (By using an internal switch)
  When the transparent part at the start of the tape is detected, automatic winding is executed by the short FF function, and ON/OFF switching of this function is possible by using an internal switch.
- ON/OFF switching (by using an internal switch) is possible for the automatic cassette tape ejection function at the time of tape end detection during recording.
- ON/OFF recording with record prevention tab removed.
- Correspondence to serial code remote control is possible. For details, consult your local dealer.

Controls and Indicators



① **VTR Switch [VTR]**
Power is supplied to the unit when this switch is activated. The audio CH1 and CH2 meter lamps light. The Eject/Auto OFF lamp lights when no tape is inserted. The tape counter illuminates, and the tape is set to intermediate loading position. When the switch is pushed again, the power is switched off.

② **Eject/Auto OFF Lamp [AUTO OFF]**
This lamp lights when no tape is inserted. It flashes when something is wrong with the tape transport (such as tape slack). The unit does not operate when this lamp is flashing.

③ **MOIST Lamp [MOIST]**
This lamp lights when condensation has formed inside the unit, which cause the unit to cease operating. The cassette tape will be ejected automatically (Eject/Auto Off lamp also lights).

④ **Meter Selector [METER]**
This is the audio level meter selection switch.

HD (▄): Use when adjusting the HD sound recording input level.
NORM (■): Use when adjusting the normal audio recording input level.

⑤ **Audio Channel 1 Level Meter**
This is the audio channel 1 peak level indicator (decibel meter). Audio Level Controls ⑥ ⑧ in the detent position. Adjust master source audio input level to −8dB*. Then audio output levels becomes −8dB. At this time, Level Meters indicate 0VU.
*dB=1V r.m.s
Adjust channel 1 level control ⑥ so that the meter needle does not cross the red zone (over 8).

⑥ **Audio Channel 1 Level Control**
The inside knob is the level control knob for normal audio and the outside is for HD sound. When using normal input the control is normally set at the click stop. To adjust the normal audio level, set the Audio Limiter ⑨ to "OFF" and then adjust this control so that Level Meter ⑤ does not cross the read zone (over 8). For the HD sound, the limiter does not effect.

⑦ **Audio Channel 2 Level Meter**
This operation of this is the same as described for channel 1 in ⑤.

⑧ **Audio Channel 2 Level Control**
The operation of this is the same as that for channel 1 described in ⑥.

⑨ **Audio Limiter Selector [AUDIO LIMITER]**
This selector only works during normal audio recording.

ON: When loud instantaneous noises are entering the audio input, set the audio limiter selector switch to this position. The audio limiter circuit will then operate to maintain distortion-free recording.
OFF: The sound is recorded just as it enters. Since the limiter does not operate to limit unusually loud noises, it is necessary to set the audio level low.

⑩ **Dolby NR Switch [DOLBY NR]**
This only works during normal audio recording. When the Dolby NR Switch is set to the "IN" position, the Dolby NR System is activated.

⑪ **Dolby NR Lamp**
When the Dolby NR Switch is in the "IN" position, this lamp is illuminated and the Dolby Noise-Reduction System is enabled.

⑫ **Time Code Lamp [TIME CODE]**
When the Audio CH2 Selector Switch ㊺ on the rear panel is set to TIME CODE, this lamp lights.

⑬ **Cassette Holder**

⑭ **Eject Button/Lamp [EJECT]**
To remove a cassette, press this button.
If this button is pressed while the tape is moving, (during playback, fast forward or rewind) the unit will stop and then eject the cassette tape.

⑮ **Rewind Button/Lamp [REW]**
When this button is pressed, the cassette tape is rewound to the supply reel.

⑯ **Play Button/Lamp [PLAY]**
Pressing this button causes the tape to start playback. If Record Button is held down first, and then this button is pressed, the unit will go into the recording mode.

⑰ **Fast Forward Button/Lamp [FF]**
When this button is pressed, the tape is wound rapidly onto the takeup reel.

⑱ **Record Button/Lamp [REC]**
This button should be pressed and held in while Play Button is pressed to start recording both video and audio.

⑲ **Stop Button/Lamp [STOP]**
Used to stop the tape movement.

⑳ **Tape Counter**
▭ : indicates that the cassette is in the cassette holder.
▬ : indicates the minus counter position "-*:**:**" when the tape is rewound beyond the reset (0:00:00) position.
→000: indicates the counter (0:00:00) search mode by pressing the Rewind or Fast Forward Button.
⊐ : indicates the one-time repeated playback mode.
(One-time repeat function is not available on the AG-6810S.)
⊂⊃ : indicates the random repeated playback mode.
(Random repeal function is not available on the AG-6810S.)
LAP: indicates the tape position from the reset point.
REMAIN: indicates remaining tape time.
RESET **Button:** For setting the tape counter to "0:00:00".
TAPE MEMORY Button: For selection of either automatic tape stop when the counter reaches "0:00:00" in the rewind, fast forward, or the repeated playback modes.

> Tape Memory can be activated in this sequence:
> 1st push: → 000
> 2nd push: ⊐
> 3rd push: ⊂⊃
> 4th push: memory off

LAP/REMAIN Button: For selection of either the elapsed time (normal tape position from reset point) or the remaining tape time indication on the counter.

㉑ **HD Lamp [HD]**
This lights up when HD sound is being monitored or recorded.
- When performing recording with the Audio Recording Selector ㉓ set to "HD/NORMAL", the HD lamp will light (when the Audio Recording Selector is set to "NORM", HD sound will not be recorded, and thus the HD lamp will remain out).
- HD lamp will light during playback if the Audio Monitor Selector is set to "HD".
- During stop, FF and REW if the Audio Monitor Selector is set to "HD".

㉒ **Audio Monitor Selector [AUDIO MONITOR]**
Selects the audio signal which appears at the Audio Monitor Output Jacks ㊷ on the rear panel and the Headphone Jack ㉗ on the front panel.
HD: HD Sound appears at monitor jacks.
NORM: Only Normal Sound appears at monitor jacks.
- The Audio Monitor Channel Selector controls normal audio monitoring at the Headphone Jack as follows:
  CH1: Only channel 1 audio at Headphone Jack.
  MIX: Separate channel 1 and channel 2 at Headphone Jack.
  CH2: Only channel 2 audio at Headphone Jack.

㉓ **Audio Recording Selector [AUDIO REC]**
HD/NORM: To record HD sound and normal audio.
NORM: To record only normal audio.

㉔ **Mode Lock Lamp [ML]**
When the Mode Lock Selector switch ㊽ on the rear panel is set to "ON", the ML (Mode Lock) lamp lights up.

㉕ **Record Tab Lamp [RT]**
(recording mode without record prevention tab on the tape)
When this lamp is lit, recording is possible even if the Record Prevention Tab is missing.

㉖ **Headphone Jack [HEADPHONES]**
Permits listening with headphone to a channel or channels selected by the Audio Monitor Selector ㉒.

㉗ **Headphone Level Control [HEADPHONES-LEVEL]**
This volume controls the headphone level.

㉘ **Test Terminal [TEST]**
An oscilloscope can be connected to these terminals for confirmation of video and HD sound head outputs during playback.
Video RF:
Connect oscilloscope to this terminal to check the video head output.
HD RF (CH1/CH2):
Connect oscilloscope to this terminal to check the HD sound head output.
PG: Use this terminal to extermal trigger oscilloscope.
GND: This is the grounding terminal.
Note:
These Video and HD Outputs are provided for customers convenience only. Please do not use above terminals for measurement purposes.

㉙ Tracking Control [TRACKING]
Normally leave this control in its centre "FIX" detent position. Occasionally tapes made on other video cassette recorders may exhibit noise or streaks during the normal playback and require adjustment of the require adjustment of this control.

㉚ Tape Remaining Selector [TAPE REMAIN]
Matches time countdown circuits to the type of tape used.
E240: For use with the NV-E240 tape.
NORM: For use with the NV-E180, E120, E90, E60 or E30 tape.

㉛ Hour Meter [HOUR METER]
Indicates the head rotation time (max. 5000 hours).

㉜ Power Off/On Switch [POWER]
Setting this switch to the off position removes all applied power from the unit.
Set the switch to the "OFF" position when this unit is not used for a long time.
Note that the front panel VTR Switch is used to turn the unit ON and OFF during normal used.

㉝ AC Power Cord
For connection to an AC electric outlet. This plug is a 3-prong grounded type. For UK Model fit a switchable 3 pin plug. (Refer page 2 for wiring instructions.)

㉞ Ground Terminal [GND]
Connect to external ground, if audio hum or buzz is heard while monitoring or playing back.

㉟ Voltage Selector
This selector can be set for 110, 120, 220, 240 Volt operation.
E type is preset to 220V, and B type and A type are preset to 240V at the factory.

㊱ Remote Control Connector [REMOTE]
The optional accessory AG-A600 remote controller is connected here for remote control operation.
(The search operation does not effect.)

㊲ Recording Remote Control Jack [REC REMOTE]
This is used when the video and audio signals from a master VTR are to be dubbed onto other VTRs: dubbing can be done with up to 500 VTRs at one time.

㊳ HD Sound Recording ON/OFF Remote Control [HD REC REMOTE]
An ON/OFF remote control switch can be connected for remote control of the Audio Recording Selector switch ㉓ on the front panel. (The connector is a phono jack type.)
OFF: HD sound and normal audio will be recorded.
ON: The Normal audio will be recorded.
The Audio Recording Selector switch ㉓ does not operate when a remote control switch is connected.

㊴ HD/Normal Playback Remote Control Connection Terminal [HD/NORM MONITOR REMOTE]
An ON/OFF remote control switch can be connected for remote control of the function of the Audio Monitor Selector switch ㉒ on the front panel. (The connector is phono jack type.)
OFF: HD sound
ON: Normal audio
The audio monitor selector switch ㉒ does not operate when a remote control switch is connected.

㊵ Normal Audio Input Jack [NORM AUDIO IN]
These are audio input jacks for the two channels (channel 1 and channel 2). Recording is done by fixed heads. When the input is connected to these jacks, HD recording is also done automatically, when Audio Recording Selector ㉓ is set to HD/NORM.

㊶ HD Sound Input Jacks [HD IN]
These are audio input jacks for the two channels (channel 1 and channel 2), exclusively for HD use.

㊷ HD Sound Output Jacks [HD OUT]
These output jacks are exclusively for HD use.

㊸ Audio Monitor Output Jacks [AUDIO OUT]
These are normal audio and HD sound output jacks. Normal, use these audio output jacks. The audio signals (Normal or HD) selected by the Audio Monitor Selector ㉒ on the front panel are output here. When the HD sound is not output, only the normal audio is being output.

㊹ Time Code Input/Output Terminals
These terminals are used for recording and playback of the time code signals.
IN: The time code generator output is connected here.
OUT: The output from this Jack is connected to the input jack of the time code reader.

㊺ Audio Channel 2 Selector [AUDIO CH2 SELECT]
To record or play back the time code signal, set this selector to "TIME CODE".

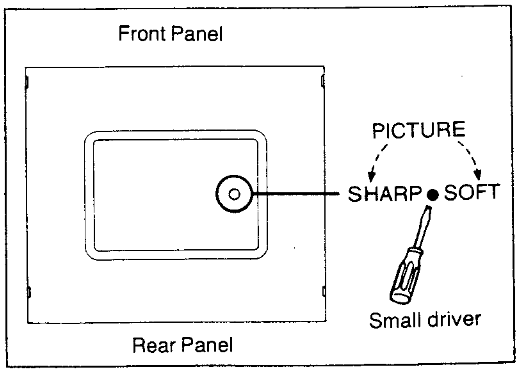
㊻ Video Input Connector [VIDEO IN]
This video input connector is the BNC type.

㊼ Video Output Connector [VIDEO OUT]
This video output connector is the BNC type.

㊽ Mode Lock Selector [MODE LOCK]
When this is set to "ON", the ML lamp on the front panel lights up and control buttons will not work (except when operation is done by remote control).

㊾ Picture Sharpness Control [PICTURE]
Control the playback picture so that its outlines are made sharper or softer. If has no effect on recording.

(Bottom View)



Interconnictions

Remote Connector

Pin. No.	Contents	Pin No.	Contents
$\boxed{1}$	REC SWITCH*	18	CONTROLPULSEOUT
$\boxed{2}$	PLAY SWITCH	$\boxed{19}$	REMOTE 19 (AG-6810 only)
$\boxed{3}$	FF SWITCH	20	START MARK
$\boxed{4}$	REW SWITCH	$\boxed{21}$	EJECT SWITCH
$\boxed{5}$	STOP SWITCH	22	
$\boxed{6}$	AUDIO DUB SWITCH	㉓	REC HOLD
$\boxed{7}$	PAUSE SWITCH	㉔	PLAY HOLD
⑧	CASSETTE IN	㉕	FF HOLD
$\boxed{9}$	AUDIO DUB SWITCH	㉖	REW HOLD
$\boxed{10}$	FF, REW SLOW DOWN	27	
11		㉘	AUDIO DUB HOLD
12	GND	㉙	PAUSE HOLD
$\boxed{13}$	FRAME ADV. SWITCH	$\boxed{30}$	REMOTE 30 (AG-6810 only)
⑭	REVERSE COUNT	㉛	AUDIO DUB HOLD
15		32	
16		$\boxed{33}$	REMOTE 33 (AG-6810 only)
$\boxed{17}$	REVERSE (AG-6810 only)	34	+12 V

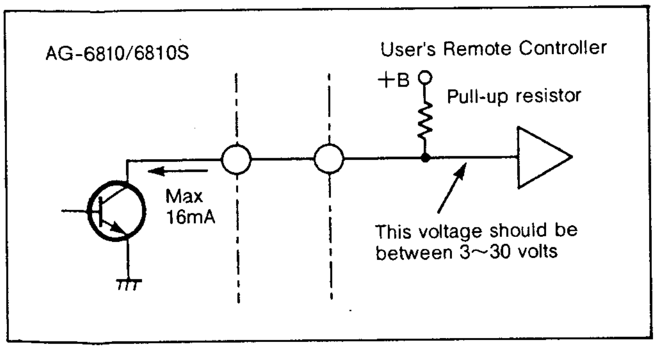
***Note 1.** When the voltage pin 1 is LOW, the unit will go into the REC mode.

2. ○: Output pins

□: Input pins

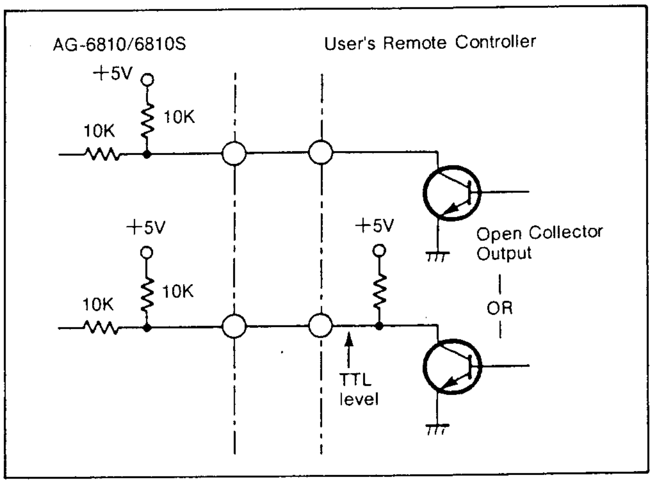
1. Output pins

The signals from the output pins are open collector circuit. Therefore, user's remote controller circuits for the output pins should be designed as shown below.


AG-6810/6810S
User's Remote Controller
+B
Pull-up resistor
Max 16mA
This voltage should be between 3~30 volts

2. Input pins

Input pins are internally pulled-up at about +5V. Therefore, user's remote controller circuits for the input pins should be designed open collector output circuit or Transistor Logic (TTL) level (L: Less than 0.8V, H: 2.4V~5V) as shown below.

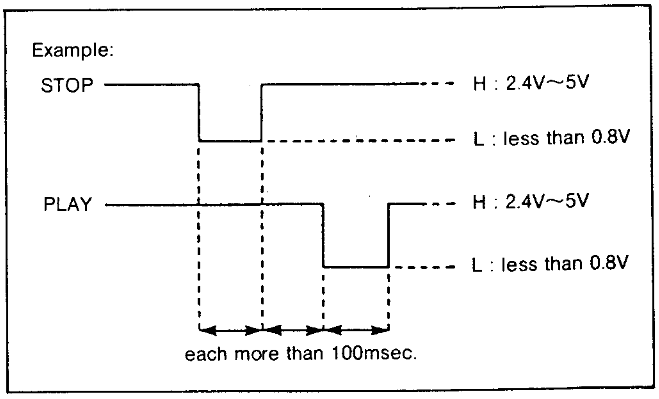

AG-6810/6810S
User's Remote Controller
+5V
10K
10K
+5V
+5V
10K
10K
Open Collector Output
OR
TTL level

3. Width of Switching Pulse

The following specified pulse should be applied to pins of the following table.

Note that pulses should not be overlapped each other.

Contents of signal	Pin No.
REC SWITCH	1
PLAY SWITCH	2
FF SWITCH	3
REW SWITCH	4
STOP SWITCH	5
AUDIO DUB SWITCH	6,9
PAUSE SWITCH	7


Example:
STOP
H : 2.4V~5V
L : less than 0.8V
PLAY
H : 2.4V~5V
L : less than 0.8V
each more than 100msec.

Installation

5. Installation

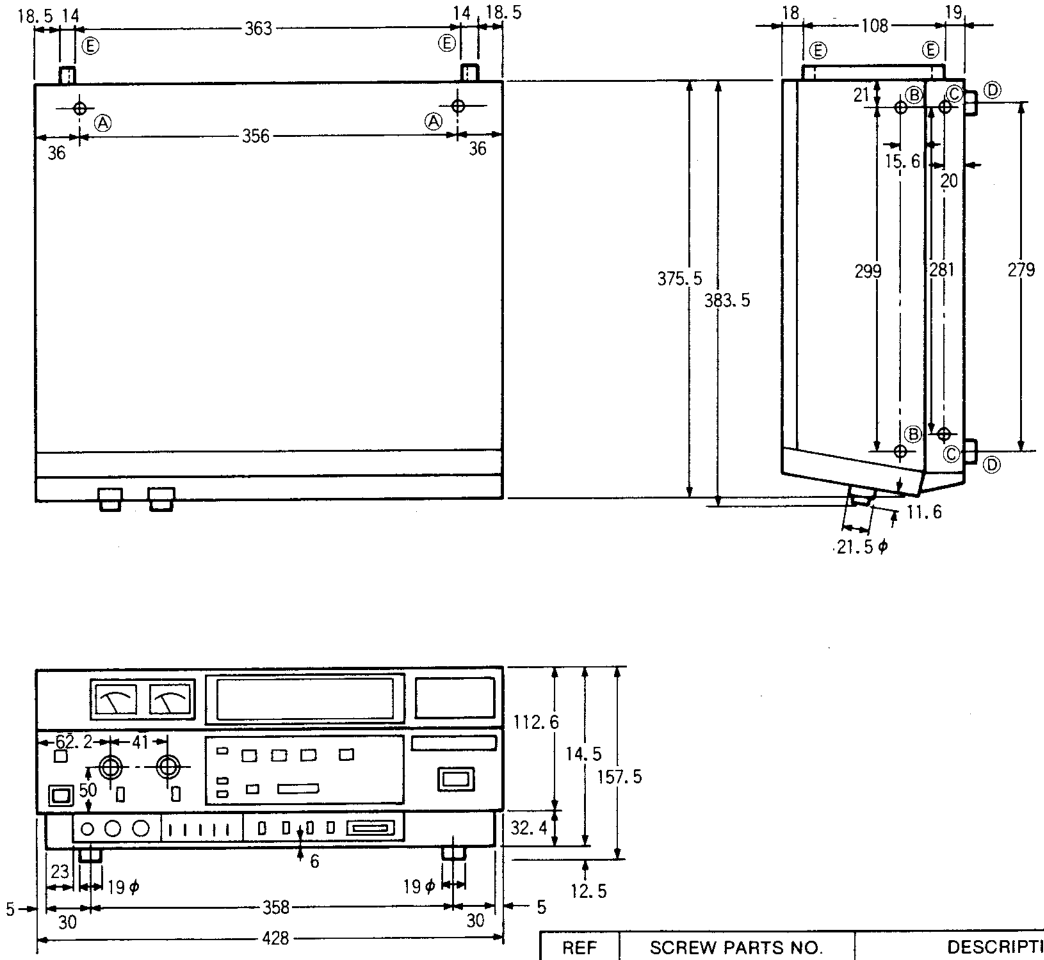
When the AG-6810 or AG-6810S is installed, be sure to install the unill at the installation space under the following operational environment.

A. Operational environment

- Avoid operating or leaving the unit near strong magnetic fields. Be especially careful of large audio speakers.
- Avoid operating or storing the unit in an excessively hot, cold, or damp environment as this may result in damage both to the recorder and to the tape.
- This unit is supplied with a 3-prong grounded AC plug – do not try to defeat its purpose.
- Do not spray any cleaner or wax directly on the unit.
- If the unit is not going to be used for a length of time, turn the Power OFF and disconnect the power plug from the AC outlet.
- Do not leave a cassette in the recorder when not in use.
- Do not block the ventilation slots on the rear panel.
- Do not place the unit in close rack. Good air circulation is essential to prevent internal heat.
- Use this unit horizontally and do not place anything on the top Panel.

B. Dimensions

The outer dimensions of AG-6810/6810S are shown below.



REF	SCREW PARTS NO.	DESCRIPTION
Ⓐ	VHD0222	4ϕX10 (ISO)
Ⓑ	XSBV0007	4ϕX8 (ISO)
Ⓒ	XSB4+12FZS	4ϕX12 (ISO)
Ⓓ	XTV3+8FFZ	3ϕX8 (ISO)
Ⓔ	XTV3+10FFZ	3ϕX10 (ISO)

Unit : mm

Dimensions

MAINTENANCE CHART

The replacement periods of the parts in the following table are average of equipment that is used in accordance with the instruction and installation on page 1-2∼1-8.
Note that the periods may vary considerably according to environmental, usage conditions and quality of cassette tape.

	Parts Name	Unit or Part No.	Hour										
			500	1000	1500	2000	2500	3000	3500	4000	4500	5000	Remark
❶	Tape Transporters	———	●	●	●	●	●	●	●	●	●	●	
❷	A/C Head	VBR0069	●	●	●	●	●	●	●	◎	●	●	every 4,000 H
❸	Erase Head	VBS0024	●	●	●	●	●	●	●	◎	●	●	every 4,000 H
❹	Upper Cylinder Unit	VEH0287	●	◎	●	◎	●	◎	●	◎	●	◎	
❺	DD Cylinder Motor Unit	VEG0352	●	●	●	●	●	●	●	●	●	◉	every 5,000 H
❻	Supply Reel Table Unit	VXR0109	●	●	●	●△	●	●	●	●△	●	●	
❼	Takeup Reel Table Unit	VXR0117	●	●	●	●△	●	●	●	◎△	●	●	◎ every 4,000 H
❽	Capstan Motor Unit (Shaft)	VEM0164	●	●△	●	●△	●	●△	●	●△	●	●△	
❾	Reel Idler Unit	VXP0463				△				△		◉	
❿	Reel Idler Tire	VXP0675	●	●	●	◎	●	●	●	◎	●	●	
⓫	Pressure Roller	VXG0013	●	◉	●	◎	●	◉	●	◎	●	◉	
⓬	Brake Lever (L) Unit	VXL1103				◎				◎			
⓭	Brake Lever (R) Unit	VXL1054				◎				◎			
⓮	Soft Brake (T) Unit	VXZ0109				◎				◎			
⓯	Loading Brake Arm Unit	VXZ0110				◎				◎			
⓰	Fixed Tension Brake Unit	VXZ0170				◎				◎			
⓱	Tension Band Unit	VXZ0129				◎				◎			
⓲	Slip Brush Unit	VXS0055				◎				◎			
⓳	Loading Belt (1)	VDV0122				◎				◎			
⓴	Loading Belt (2)	VDV0135				◎				◎			
㉑	Kick Pulley Belt	VDV0138				◎				◎			
㉒	Front Loading Belt	VDV0144				◎				◎			
㉓	Reel Motor Pulley	VDP1042				◎				◎			
	Reel Motor (without Pulley)	KFN56FB8B	●	●	●	●	●	●	●	◎	●	●	every 4,000 H
㉔	Fan Motor Unit	FBP06B24L										◎	every 5,000 H
㉕	Loading Motor Unit	VEM0135				◎				◎			
㉖	Front Loading Motor Unit	MXN12AE10C				◎				◎			
㉗	Hour Meter	VSE0064Z										◎	every 5,000 H
㉘	Loading Base (1) Unit	VXA1334					■					■	
㉙	Cam Gear Section and Hyper Pressure Section (Between Metal)	———								■			every 4,000 H

∗ **NOTE:**

Symbol	Maintenance	Requirement	Remark
●	Cleaning	Freon TF, Ethyl-alcohol or Cleaning Liquid (Purchase locally)	Wipe dirt from the parts using soft cloth impregnated with Freon TF or Ethyl-Alcohol. Note: When cleaning rubber parts, avoid using excessive alcohol since it may accelerate deterioration of these parts. After cleaning with alcohol, wipe the alcohol quickly and thoroughly.
◎	Replacement	———	———
◉	Replacement (In case)	———	If the regular cleaning has not been done.
△	Lubrication	High Quality Spindle Oil (Purchase locally)	Supply one or two drops of oil.
■	Greasing	Molytone Grease (MOR265)	Wipe the old grease and apply new grease.

MECHANICAL ADJUSTMENT PROCEDURES

1. DISASSEMBLY OF CABINET PARTS

1-1. DISASSEMBLY FLOW CHART (Figure D1)

This flow chart describes the order of steps for removing the cabinet parts and certain printed circuit boards in order to gain access to the items needing servicing. To reassemble the unit, follow the steps in reverse order.

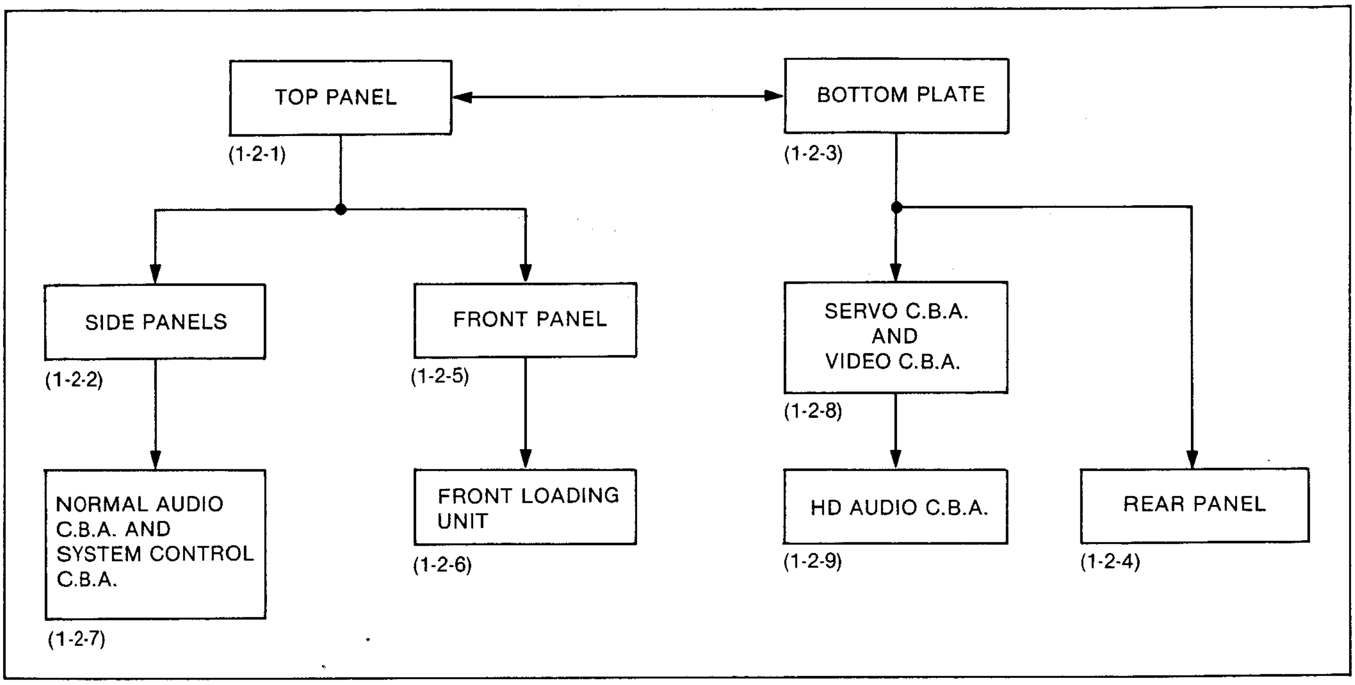

TOP PANEL
(1-2-1)
BOTTOM PLATE
(1-2-3)
SIDE PANELS
(1-2-2)
FRONT PANEL
(1-2-5)
SERVO C.B.A. AND VIDEO C.B.A.
(1-2-8)
NORMAL AUDIO C.B.A. AND SYSTEM CONTROL C.B.A.
(1-2-7)
FRONT LOADING UNIT
(1-2-6)
HD AUDIO C.B.A.
(1-2-9)
REAR PANEL
(1-2-4)

Figure D1

1-2. DETAILED DISASSEMBLY METHOD

1-2-1. Removal of the Top Panel

1. Unscrew the 2 screws (A) in the Top Panel. (Figure D2)
2. Carefully lift the rear of the case and slide it off the back of the unit.

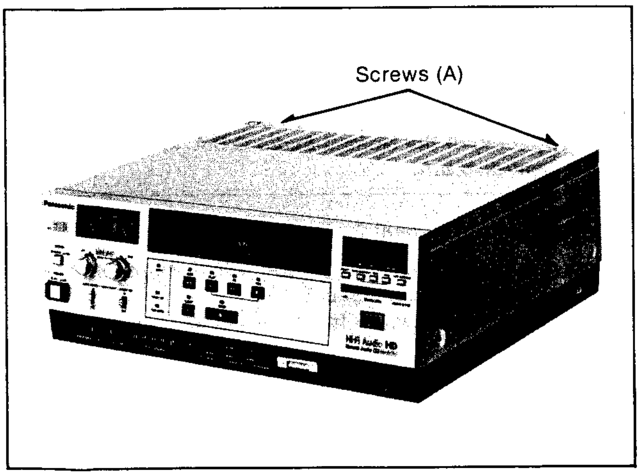


Figure D2

1-2-2. Removal of the Side Panels

1. Unscrew the 4 screws (B) in the Side Panels. (Figure D3)
2. Lift off the Side Panels.

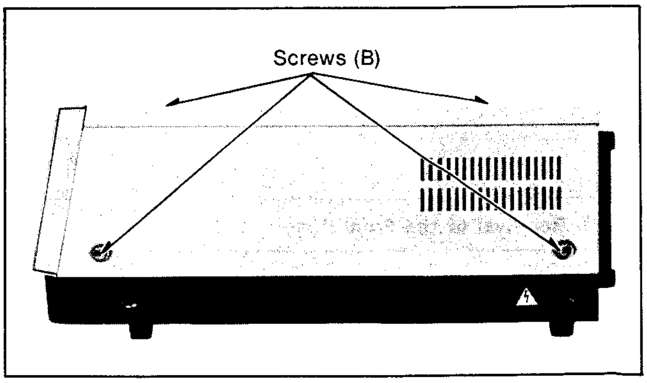


Figure D3

1-2-3. Removal of the Bottom Plate

1. Unscrew the 3 screws (C) with sawtooth washer.
2. Unscrew the 4 screws (D) on the side of the Bottom Plate. (Figure D4)
3. Lift off the Bottom Plate.

Note:

Do not remove the 4 rubber feet.

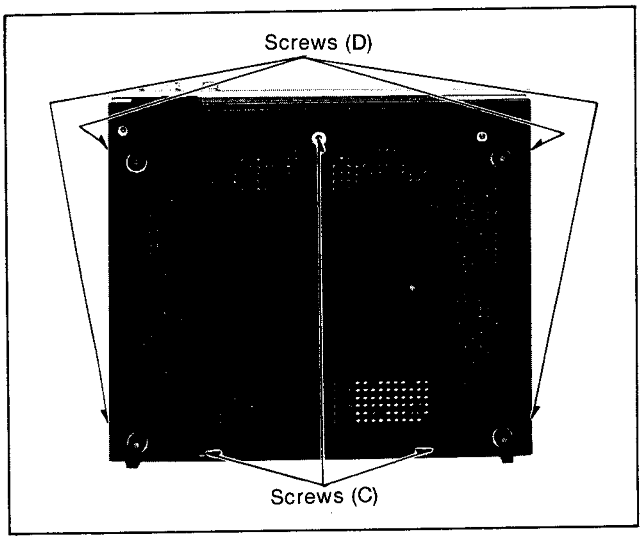


Figure D4

1-2-4. Removal of the Rear Panel

1. Unscrew the 4 screws (E) in the corners. (Figure D5)
2. Lift the Rear Panel and carefully pull the panel off the unit.

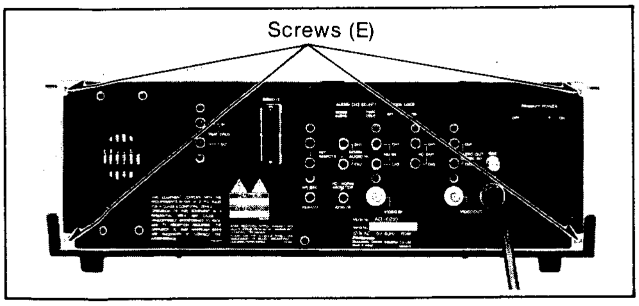


Figure D5

1-2-5. Removal of the Front Panel

1. Unscrew the 2 screws (F) on the Top and the 2 screws (G) on the bottom of the Front Panel. (Figure D6)
2. Lift the Front Panel and carefully pull the panel off the unit.

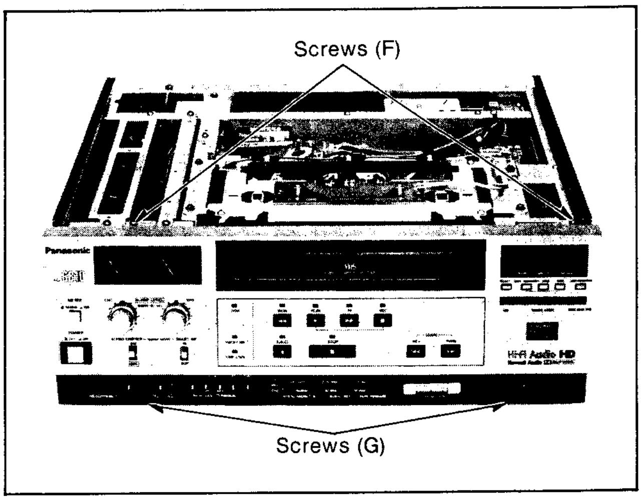


Figure D6

1-2-6. Removal of the Front Loading Unit

1. Unscrew the 4 screws (H) from the Front Loading Unit. (Figure D7)
2. Carefully lift the Front Loading Unit out.

Note:

Do not disconnect the connectors P6751, P6752 and P6753.

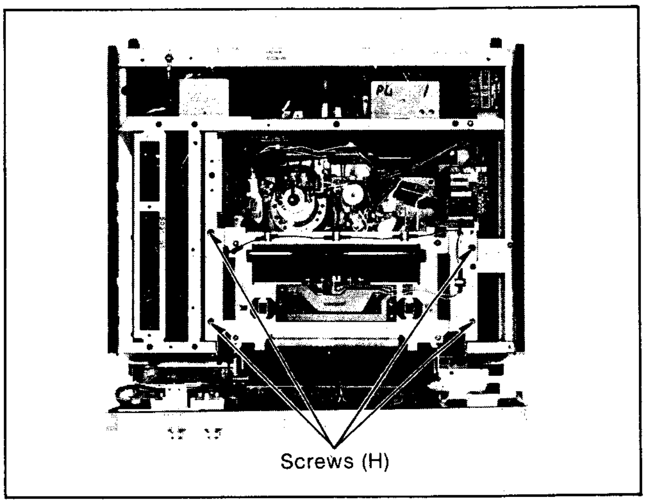


Figure D7

1-2-7. Opening of the Normal Audio C.B.A. and System Control C.B.A.

- * Opening of the Normal Audio C.B.A. (Figure D8)

1. Unscrew the 2 screws (I) of the left reinforcement and remove the left reinforcement.
2. Unscrew the 2 screws (J) from the unit and pull the C.B.A. out from the unit.

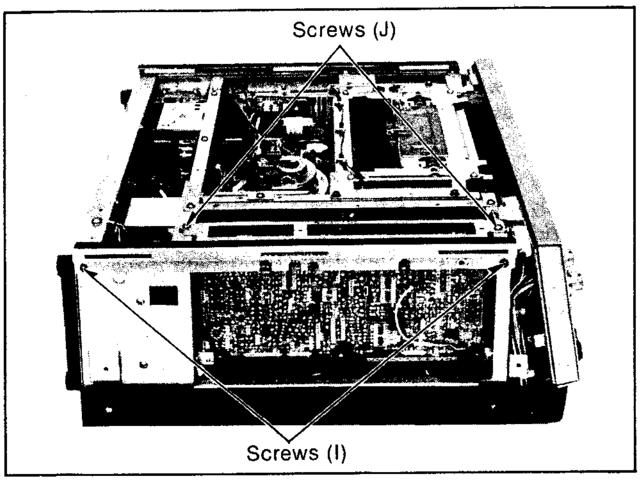


Figure D8

* Remove the System Control C.B.A. (Figure D9)

1. Unscrew the 2 screws (K) from the unit.
2. Lift the circuit board out from the unit.

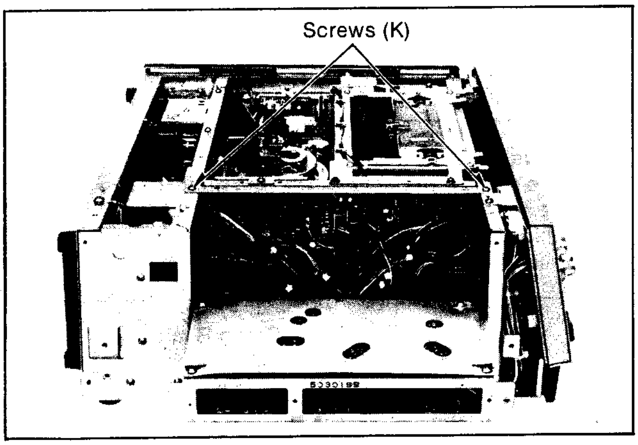


Figure D9

1-2-8. Opening of the Servo C.B.A. Luminance and Chrominance C.B.A.

1. Unscrew the 6 screws (L) from the Bottom Circuit Boards. (Figure D10)
2. Open up the Bottom Circuit Boards.

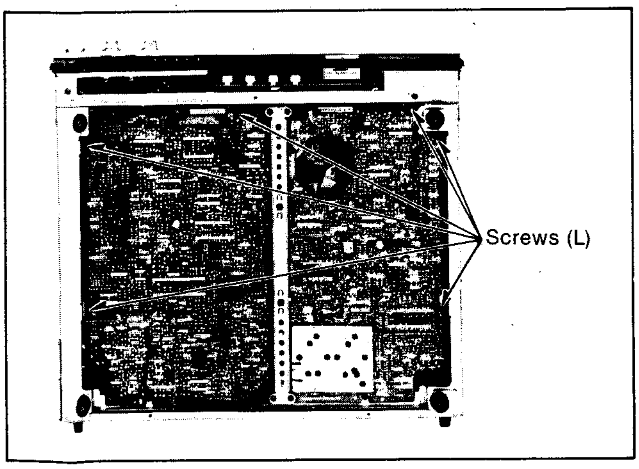


Figure D10

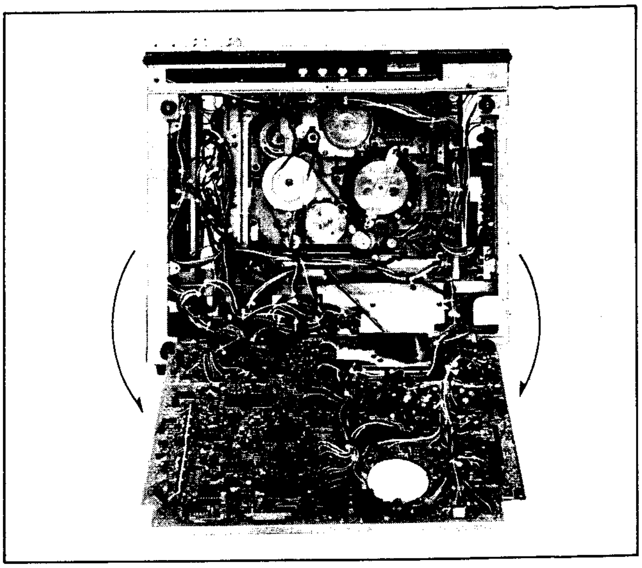


Figure D11

1-2-9. Remove the HD Audio C.B.A.

1. Open up the Bottom Circuit Boards. (Figure D11)
2. Unscrew the 2 screws (M) from the Side Panel. (Figure D12)
3. Pull the C.B.A. out from the unit. (Figure D13)

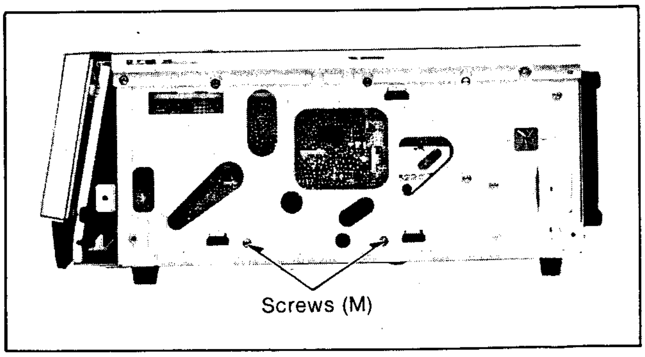


Figure D12

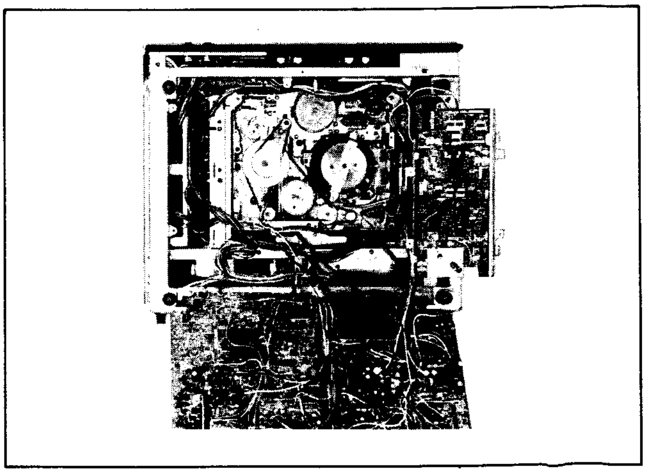


Figure D13

2. MECHANICAL MAINTENANCE PROCEDURES

2-1. REPLACEMENT PROCEDURES FOR STATOR ANGLE, RT ROTOR BASE AND UPPER CYLINDER

2-1-1. Removal Procedures

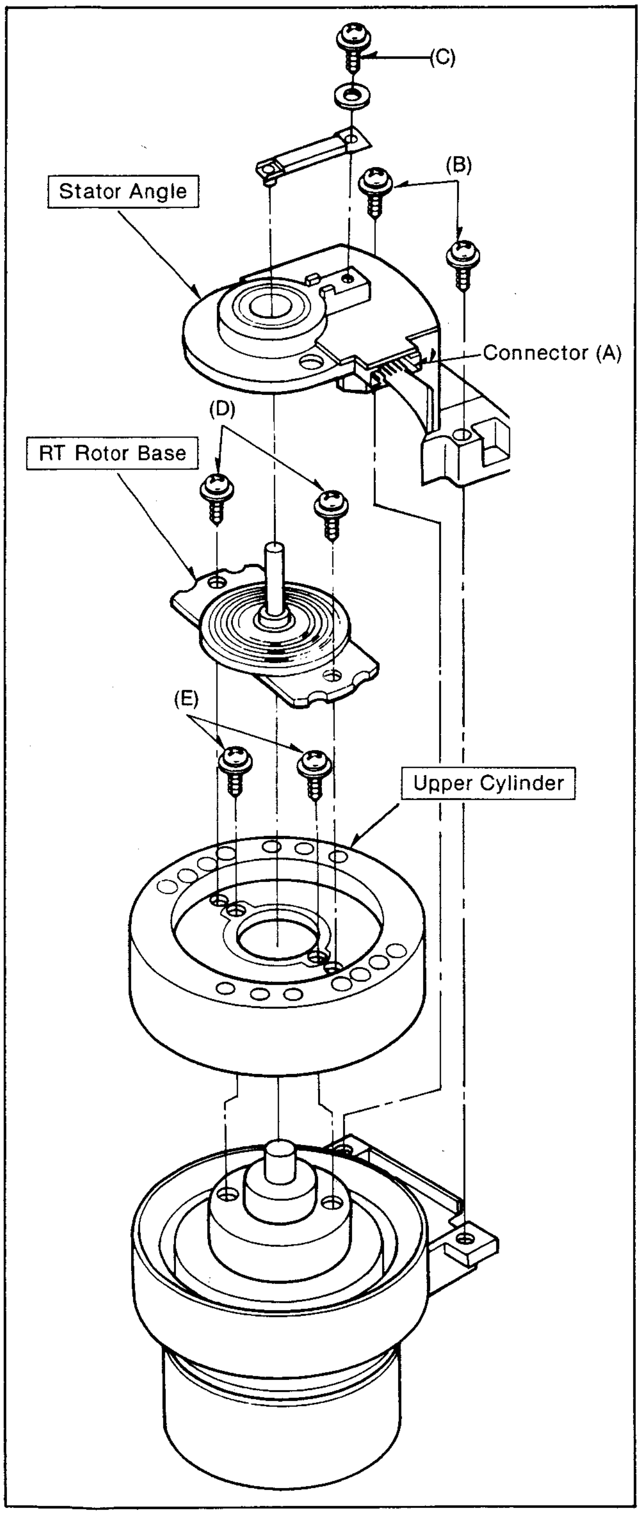


Figure M1

1. Stator Angle

First, remove the connector P3008 (A) from the Stator Angle. Next, unscrew the 2 screws (B) and then remove the Stator Angle as shown in Figure M1.

Note:

Be very careful to remove the Stator Angle so that it won't directly come into contact with lead wires alongside and the Video Head.
Never touch Rotary Transformer and screw (C) that secure the Stator Base. If screw (C) is removed, the hight of the stator base will become misadjusted.

2. RT Rotor Base

First, unscrew the 2 screws (D), and then unsolder 4 of the soldered portion connecting the RT Rotor Base and the Upper Cylinder, and finally remove the RT Rotor Base.

3. Upper Cylinder

Unscrew the 2 screws (E) and unsolder 8 of the soldered portion indicated by arrows on the Upper Cylinder, and finally remove the video heads.

2-1-2. Reinstallation Procedures

1. Before reinstalling a new unit, clean the D.D. Cylinder shaft and the surface that it engages with on the Upper Cylinder with a soft cloth dampened with Freon TF.
2. Reverse the Removal Procedures for reinstalling the Upper Cylinder, and then RT Rotor Base.

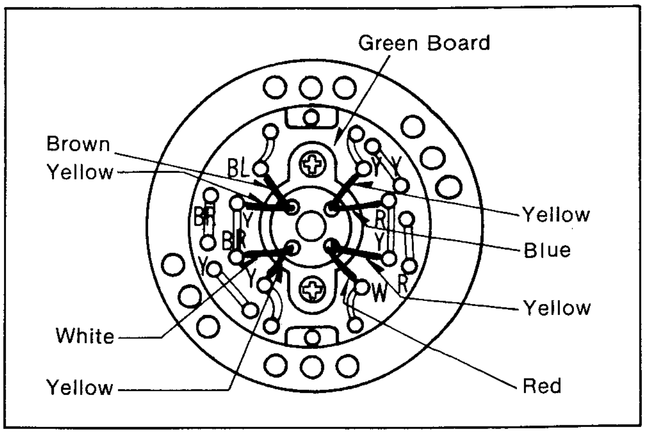


Figure M2

Note:

The color code of 8 leads match leads on the head relay board.

3. Next, reinstall the Stator Angle as reverse procedures, and tighten the 2 screws (B) temporary, and remove screw (C).
4. To correctly reinstall the Stator Angle as shown in Figure M3, fix the Stator Angle Jig (VFK0268) to the Hole of the Stator Angle as shown in Figure M4 so that the Stator Angle becomes at the correct position.

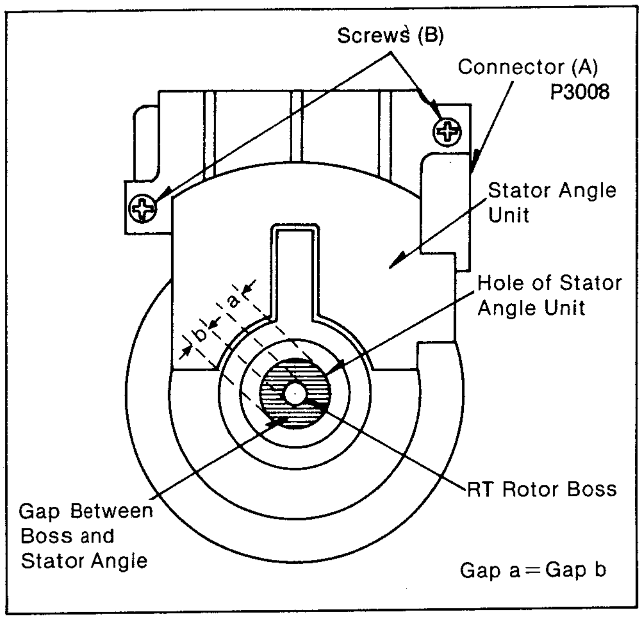

Screws (B)
Connector (A)
P3008
Stator Angle
Unit
Hole of Stator
Angle Unit
b
a
RT Rotor Boss
Gap Between
Boss and
Stator Angle
Gap a = Gap b

Figure M3

5. Carefully tighten the 2 screws (B) with the Stator Angle Adjusting Jig in place. After screws (B) are properly tightened, remove the Stator Angle Adjusting Jig, and tighten screw (C).
6. Connect the connector P3003 (A).
7. Playback the pre-recorded tape, and check the playback picture.

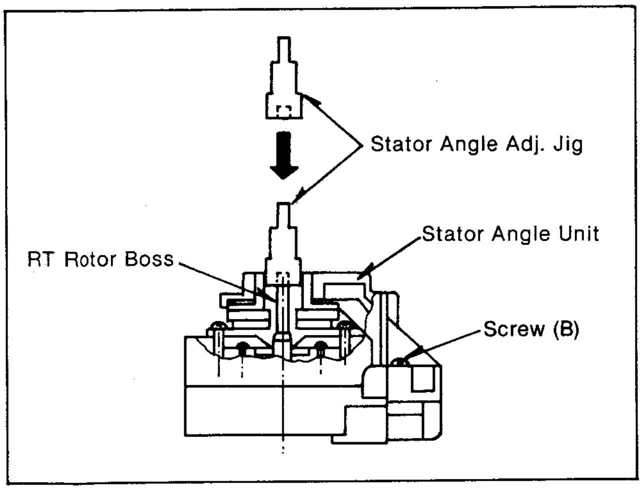

Stator Angle Adj. Jig
Stator Angle Unit
RT Rotor Boss
Screw (B)

Figure M4

2-2. REPLACEMENT OF THE DD CYLINDER UNIT

Work with extreme care when removing or replacing the DD cylinder unit. Do not touch video heads during servicing.

1. Remove the Top Panel, Cassette Compartment, Bottom Plate and open up the Bottom Circuit Boards.
   Refer to "DISASSEMBLY METHOD" section.
2. Disconnect the connector P001 and P3008 then unscrew the 3 screws (A). (Figure M5)
   Since there is very little clearance between DD Cylinder and Chassis, remove the Cylinder gently and carefully.

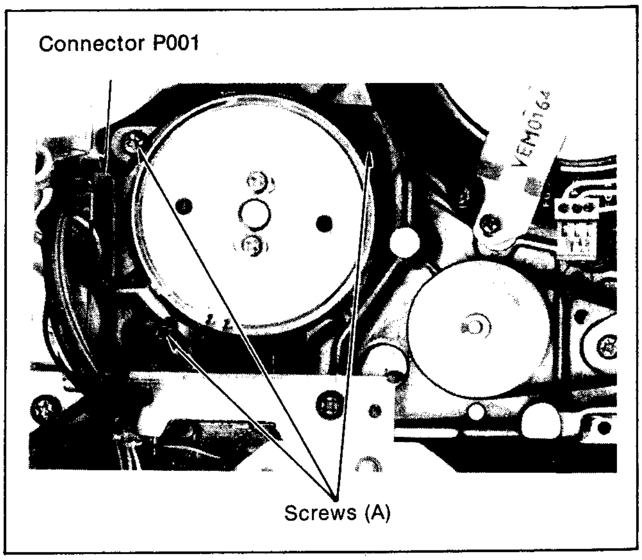

Connector P001
VEM0164
Screws (A)

Figure M5

3. Reinstall the new DD Cylinder unit in the chassis and reconnect the connectors P001 and P3008.

Note:

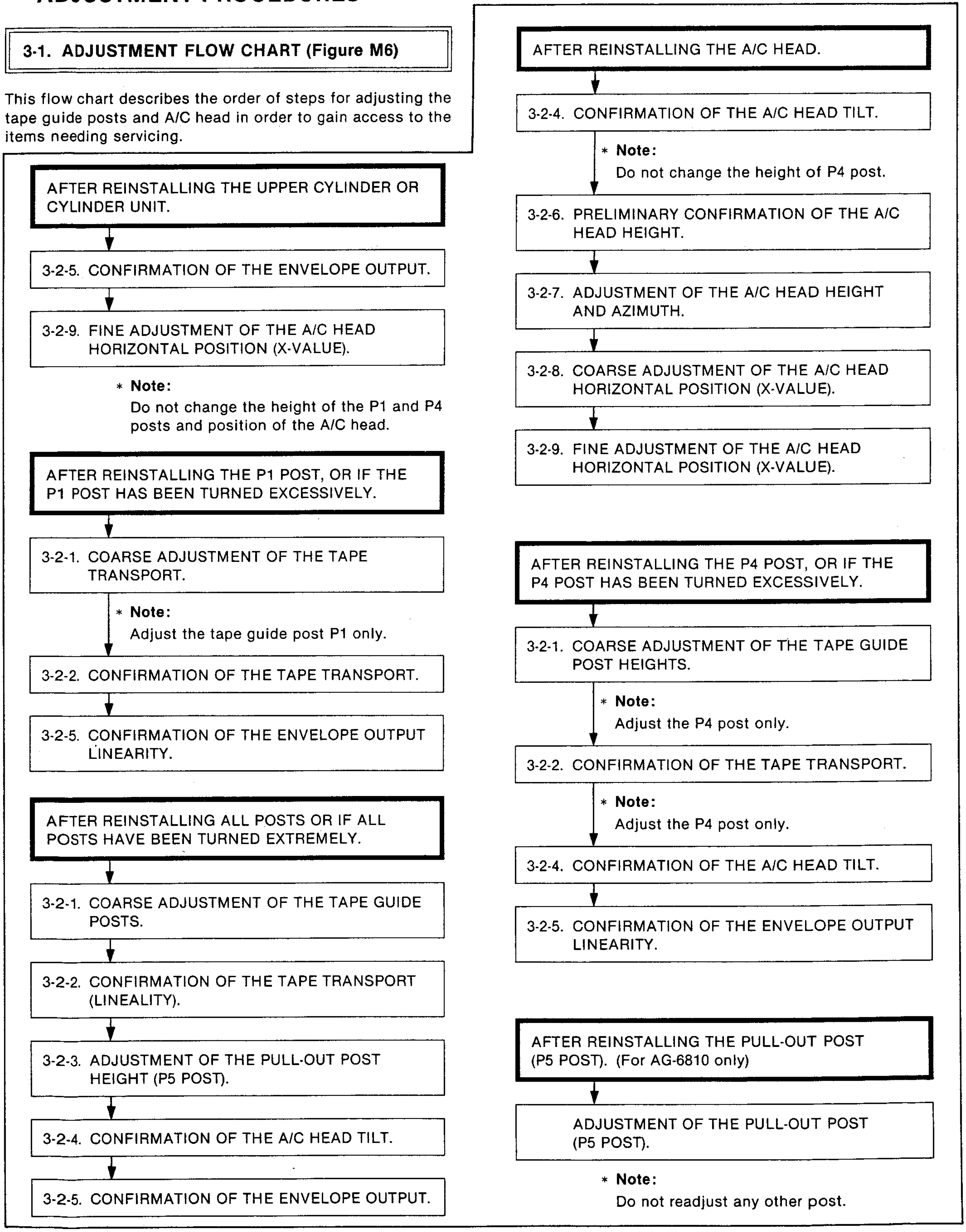
Upon completion of replacement, confirm the performance.
And if any further maintenance is required, refer to the "TAPE INTERCHANGEABILITY ADJUSTMENT" section and perform the necessary items.

Memo:

3. TAPE INTERCHANGEABILITY ADJUSTMENT PROCEDURES

3-1. ADJUSTMENT FLOW CHART (Figure M6)

This flow chart describes the order of steps for adjusting the tape guide posts and A/C head in order to gain access to the items needing servicing.



AFTER REINSTALLING THE UPPER CYLINDER OR CYLINDER UNIT.

3-2-5. CONFIRMATION OF THE ENVELOPE OUTPUT.

3-2-9. FINE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION (X-VALUE).

* **Note:**
Do not change the height of the P1 and P4 posts and position of the A/C head.

AFTER REINSTALLING THE P1 POST, OR IF THE P1 POST HAS BEEN TURNED EXCESSIVELY.

3-2-1. COARSE ADJUSTMENT OF THE TAPE TRANSPORT.

* **Note:**
Adjust the tape guide post P1 only.

3-2-2. CONFIRMATION OF THE TAPE TRANSPORT.

3-2-5. CONFIRMATION OF THE ENVELOPE OUTPUT LINEARITY.

AFTER REINSTALLING ALL POSTS OR IF ALL POSTS HAVE BEEN TURNED EXTREMELY.

3-2-1. COARSE ADJUSTMENT OF THE TAPE GUIDE POSTS.

3-2-2. CONFIRMATION OF THE TAPE TRANSPORT (LINEALITY).

3-2-3. ADJUSTMENT OF THE PULL-OUT POST HEIGHT (P5 POST).

3-2-4. CONFIRMATION OF THE A/C HEAD TILT.

3-2-5. CONFIRMATION OF THE ENVELOPE OUTPUT.

AFTER REINSTALLING THE A/C HEAD.

3-2-4. CONFIRMATION OF THE A/C HEAD TILT.

* **Note:**
Do not change the height of P4 post.

3-2-6. PRELIMINARY CONFIRMATION OF THE A/C HEAD HEIGHT.

3-2-7. ADJUSTMENT OF THE A/C HEAD HEIGHT AND AZIMUTH.

3-2-8. COARSE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION (X-VALUE).

3-2-9. FINE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION (X-VALUE).

AFTER REINSTALLING THE P4 POST, OR IF THE P4 POST HAS BEEN TURNED EXCESSIVELY.

3-2-1. COARSE ADJUSTMENT OF THE TAPE GUIDE POST HEIGHTS.

* **Note:**
Adjust the P4 post only.

3-2-2. CONFIRMATION OF THE TAPE TRANSPORT.

* **Note:**
Adjust the P4 post only.

3-2-4. CONFIRMATION OF THE A/C HEAD TILT.

3-2-5. CONFIRMATION OF THE ENVELOPE OUTPUT LINEARITY.

AFTER REINSTALLING THE PULL-OUT POST (P5 POST). (For AG-6810 only)

ADJUSTMENT OF THE PULL-OUT POST (P5 POST).

* **Note:**
Do not readjust any other post.

Figure M6

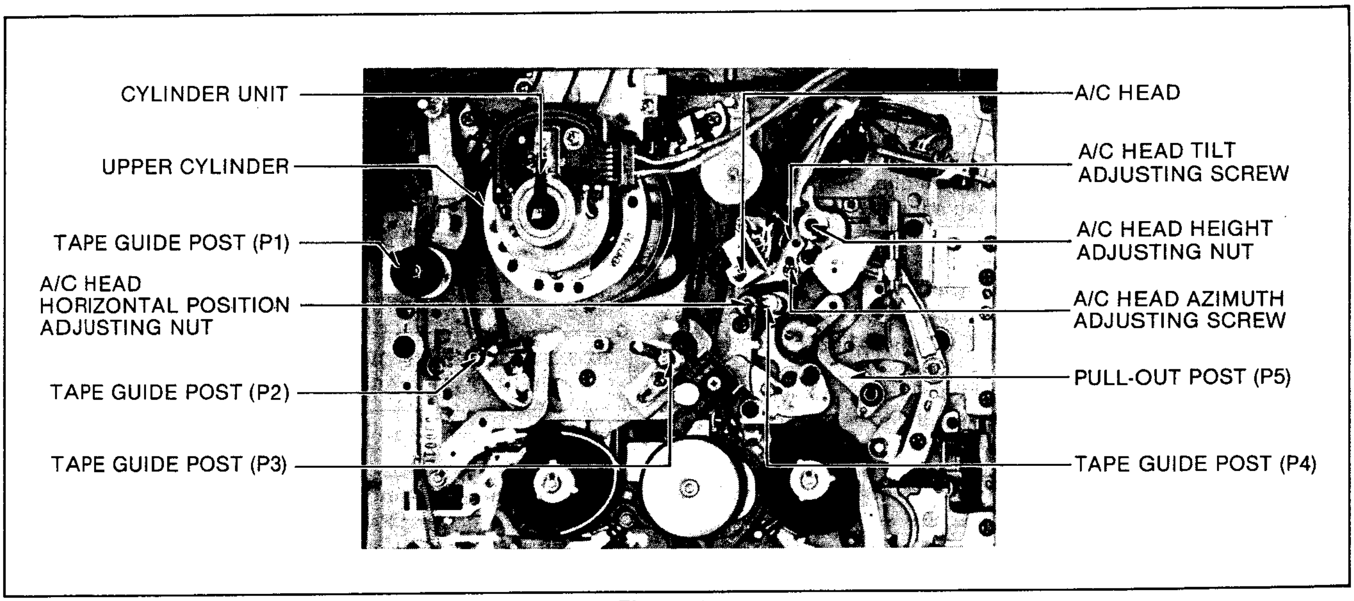

CYLINDER UNIT
UPPER CYLINDER
TAPE GUIDE POST (P1)
A/C HEAD HORIZONTAL POSITION ADJUSTING NUT
TAPE GUIDE POST (P2)
TAPE GUIDE POST (P3)
A/C HEAD
A/C HEAD TILT ADJUSTING SCREW
A/C HEAD HEIGHT ADJUSTING NUT
A/C HEAD AZIMUTH ADJUSTING SCREW
PULL-OUT POST (P5)
TAPE GUIDE POST (P4)

Figure M7

3-2. ADJUSTMENT PROCEDURES

3-2-1. COARSE ADJUSTMENT OF THE TAPE GUIDE POST HEIGHTS (P1, P2, P3 AND P4)

* **Equipment Required:**

Hex Wrench (0.9mm)	VFK0146
Post Adjustment Plate	VFK0138
Reel Table Height Fixture	VFK0139
Nut Driver (Purchase locally)	
Post Adjustment Screwdriver	VFK0137

1. Remove the Top Panel and the Front Loading Unit.
2. Place the Post Adjustment Plate over the reel tables. (Figure M8). Confirm that the Post Adjustment Plate is firmly seated.

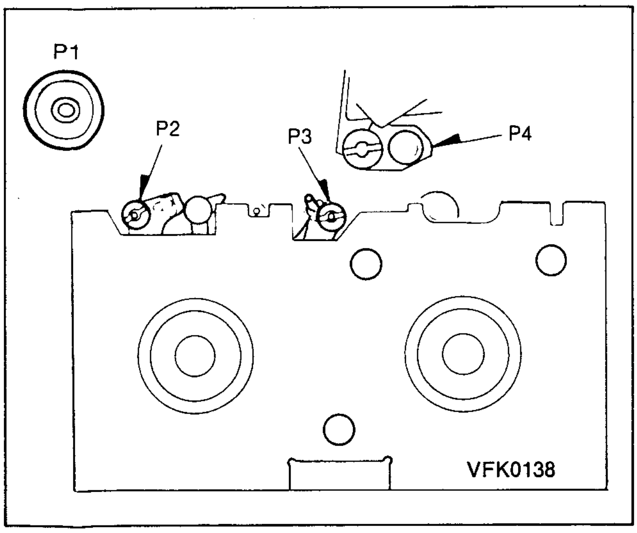

P1
P2
P3
P4
VFK0138

Figure M8

3. Slightly Loosen the hex screw located under the lower tape guide on posts P2 and P3, and remove the post cap on post P4 by turning it counterclockwise.
4. Lower all 4 tape guide posts so that the lower tape guide on each post is below the top surface of the adjustment plate.
   Use the Post Adjustment screwdriver to lower posts P2 and P3, and the Nut Driver to lower posts P1 and P4.
5. Place the Reel Table Height Fixture on the Post Adjustment Plate and lower the scraper so that it touches the plate.

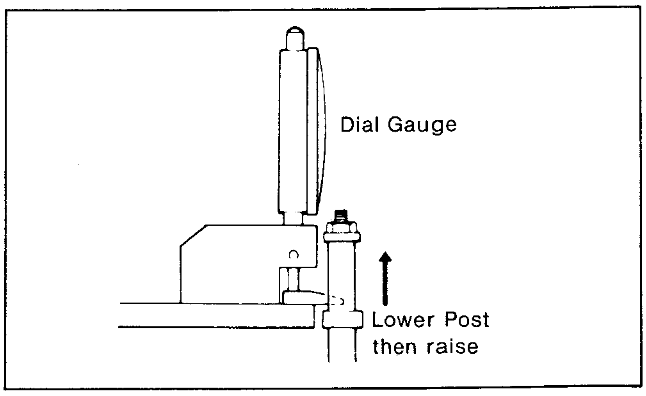

Dial Gauge
Lower Post then raise

Figure M9

6. Place the side of the scraper against the each post as shown in Figure M9, set the gauge to zero, then slowly raise the post until the lower tape guide just touches the bottom of the scraper. Use the gauge to determine the exact point at which the lower tape guide touches the scraper.

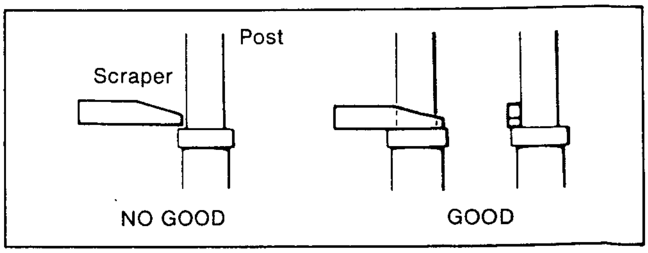

Post
Scraper
NO GOOD
GOOD

Figure M10

7. Tighten the hex screws on posts P2 and P3.

3-2-2. CONFIRMATION OF THE TAPE TRANSPORT (TAPE GUIDE POSTS)

*** Note:**

1. The tape guide posts have been precisely adjusted at the factory. Therefore, normally do not change the height of P1 and P4 posts. The following adjustment is required only when replacing the posts.
2. If curling is apparent proceed to the P4 post, wipe dirt from the pressure roller and capstan shaft using a soft cloth impregnated with Freon TF or cleaning liquid.
3. The adjustment of the post height is required only the one which has been replaced.
4. Before attempting to adjust posts P2 and P3, slightly loosen the hex screw located below the lower tape guide on each post.

*** Equipment Required:**

Post Adjustment Screwdriver	VFK0137
Hex Wrench (0.9mm)	VFK0146
Nut Driver (Purchase locally)	

1. To prevent the alignment tape from being damaged, use a normal cassette tape for this procedure.
   Playback the normal cassette tape and confirm that the tape travels without any curling at the edges of all the posts. (Figure M11)

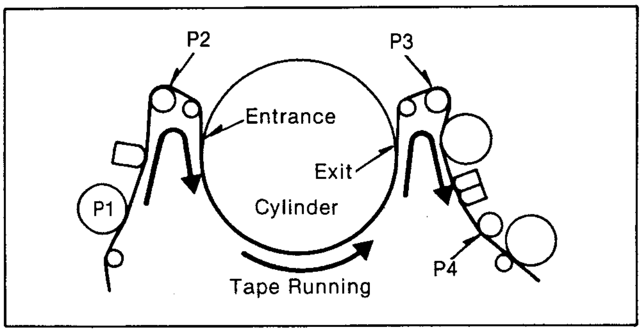


Figure M11 Tape Transport Posts

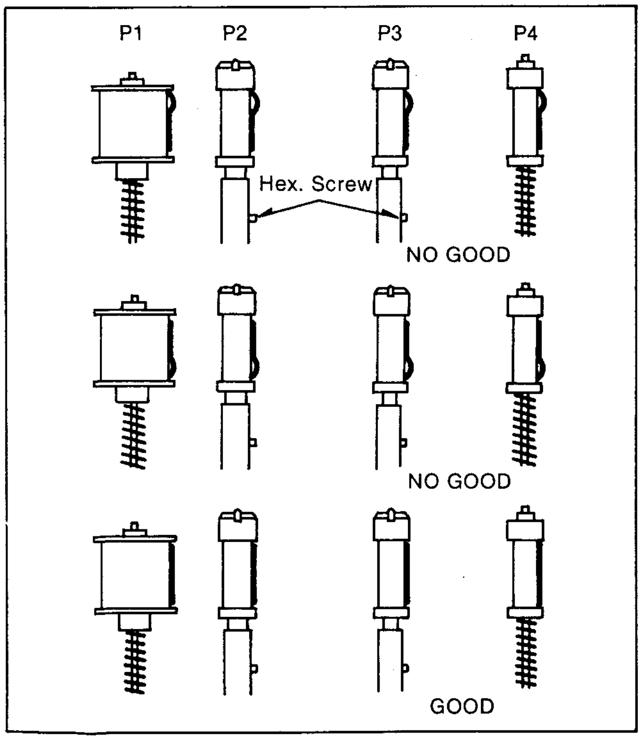


Figure M12 Tape Guide Posts

2. If curling is apparent, adjust the height of posts by turning the top of post with the post adjustment screwdriver (Posts P2 and P3) or the nut driver (Posts P1 and P4). (Figure M12)
3. After adjusting the P4 post, adjustment of the pull-out post (P5) is required.
   (Refer to "ADJUSTMENT OF THE PULL-OUT POST HEIGHT".)
4. If the tape curling cannot be acomplished by adjusting the tape guide posts, then adjustment of the A/C head tilt may be needed.
5. Tighten the hex screws on the posts P2 and P3.

3-2-3. ADJUSTMENT OF THE PULL-OUT POST (P5 POST) HEIGHT (FOR AG-6810 ONLY)

*** Note:**

1. The pull-out post has not been installed on AG-6810S.
2. This adjustment should be performed only after adjusting tape guide post P4 as the height of the pull-out post is based on the height of post P4.
3. This adjustment should be performed with the unit in the loading-completion mode.
4. When replacing or adjusting the pull-out post, unplug the unit from the power source.

*** Tools and Equipment Required:**

Post Adjustment Plate	VFK0138
Reel Table Height Fixture	VFK0139
Nut Driver (Purchase locally)	

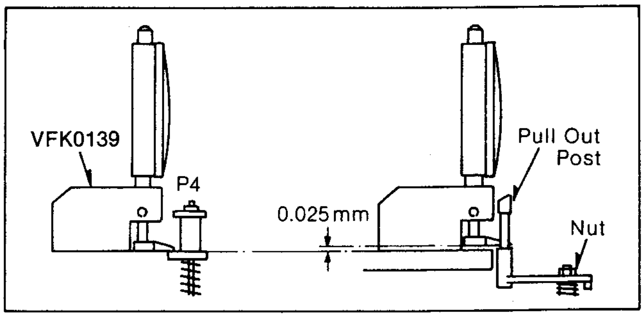


Figure M13

1. Remove the Top Panel and the Front Loading Unit.
2. Turn the power switch on.
3. Insert a cassette tape to the Cassette Compartment, then press the play button. This simulates the loading completion mode.
4. Unplug the unit from the power source.
5. Place the Post Adjustment plate over the reel tables.
6. Place the Reel Table Height Fixture on the tape guide post P4, lower the scraper so that it touches the lower edges of P4, then set the gauge to zero ("0"). (Figure M13)
7. Slightly lower the pull-out post by turning the nut on the post clockwise with the nut driver, and set the side of the scraper against the post as shown in Figure M14.
8. Slowly turn the nut on the post counterclockwise until the gauge reads 0.025mm. (Figure M13)
9. Connect Remote Controller AG-A600, confirm there is no tape curling at P4 post during ×10 reverse mode.
   If tape curling occurs, back to step 8.

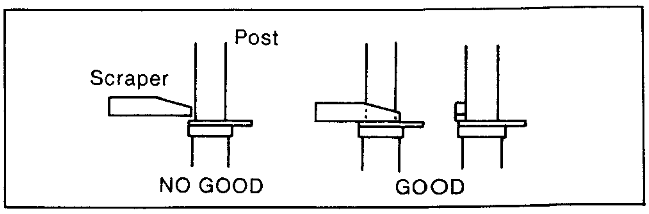


Figure M14 Post Adjustment

3-2-4. CONFIRMATION OF THE A/C HEAD TILT

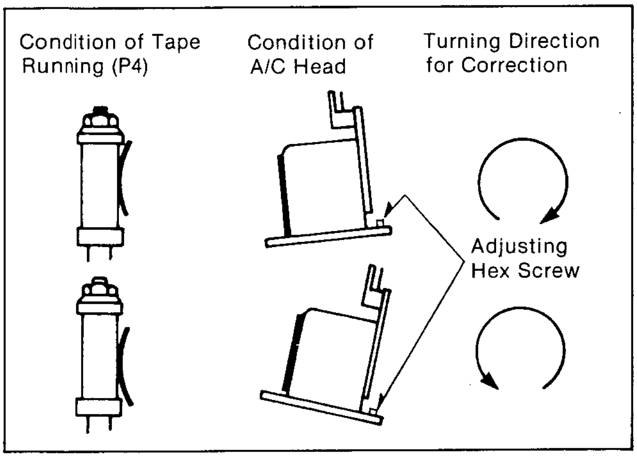
*** Note:**

This procedure should be performed after replacing the A/C head and pressure roller, and adjusting the height of the tape guide post (P4).
(Refer to "COARSE ADJUSTMENT OF THE TAPE GUIDE POST HEIGHTS".)

*** Tools and Equipment Required:**

Hex Wrench (0.9mm) VFK0146
Nut Driver (purchase locally)

1. **Playback the beginning portion of NV-E240 empty cassette** tape and confirm that the tape runs between lower and upper limiters of the P4 post. If there is waving or frilling in the lower edge or top edge of the tape, correct the tilt of the A/C head by turning the Hex screw located behind the A/C head. (Figure M15)



Condition of Tape Running (P4)
Condition of A/C Head
Turning Direction for Correction
Adjusting Hex Screw

Figure M15

2. **If the tape curling cannot be accomplished by adjusting the** A/C head tilt, then readjustment of the height of the tape guide post (P4) may be needed.

*** Note:**

1. The tape guide post (P4) has been precisely adjusted at the factory. Therefore, normally the tape guide post (P4) readjustment is not required to eliminate the tape curling.
2. After adjusting the A/C head tilt, the A/C head height adjustment is required.

3-2-5. CONFIRMATION OF THE ENVELOPE OUTPUT (LINEARITY)

*** Note:**

Before playing back the alignment tape, playback a normal cassette tape and confirm correct transport.
(Refer to "CONFIRMATION OF THE TAPE TRANSPORT".)

*** Tools and Equipment Required:**

Hex Wrench (0.9mm) VFK0146
Post Adjustment Screwdriver.................................... VFK66
Alignment Tape VFM8180HMDH

1. Connect the scope to TP4315 on the HD Audio C.B.A. and TP4307 on the same C.B.A. to Ext-Trigger the scope.
2. **Playback the 2nd portion (FM AUDIO) of the alignment tape VFM8180HMDH.**
3. Turn the Tracking Control VR and adjust for maximum HD Audio FM envelope.
4. Slightly loosen the hex screws located below the tower tape guide posts on P2 and P3 posts.
5. If the HD Audio FM envelope appears like example "A" or "B" in Figure M16, then adjustment of the tape guide post (P2: Entrance) is necessary.
6. Adjust the tape guide post (P2) with the post adjustment screwdriver so that the HD FM envelope waveform at the entrance portion becomes flat as shown "C" in Figure M16. (See Figure M19 also)

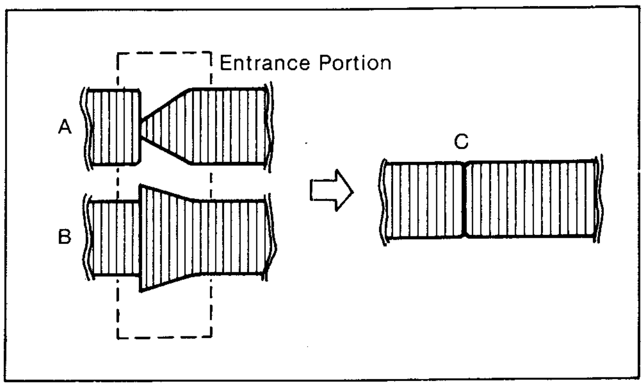


Figure M16

7. If the HD Audio FM envelope appears like example "D" or "E" in Figure M17, then adjustment of the tape guide post (P3: Exit) is necessary.
8. Adjust the tape guide post (P3) in the same manner as the P2 post so that the exit portion becomes flat as shown in "F" in Figure M17.

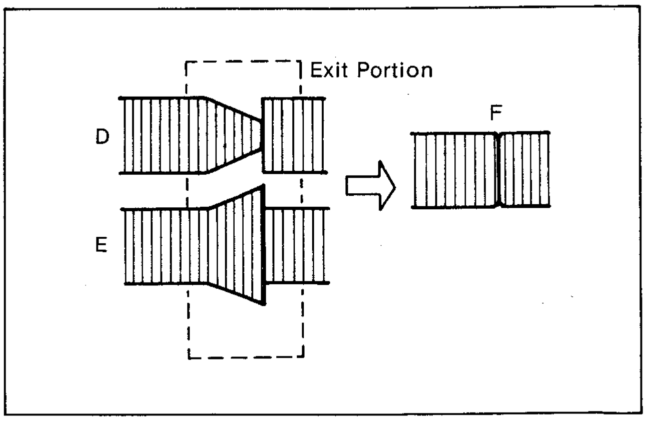


Figure M17

9. Turn the Tracking VR from end to end.
   The variation of HD Audio FM envelope should be nealy parallel as shown in Figure M18.
10. Turn the Tracking VR and adjust for maximum HD Audio FM envelope.
    If the HD Audio FM envelope does not meet these specs,
    $V1/V \geqq 0.7$, $V2/V \geqq 0.8$,
    then repeat steps 1–9 again. (Figure M20)

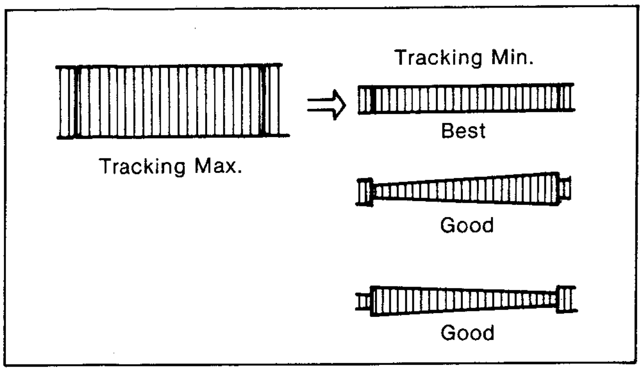

Tracking Min.
Tracking Max.
Best
Good
Good

Figure M18

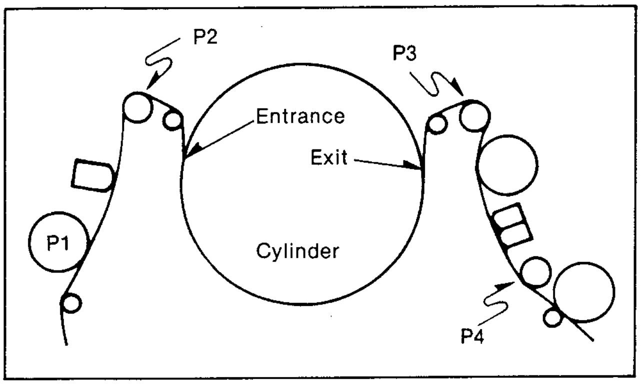

P2
P3
Entrance
Exit
Cylinder
P1
P4

Figure M19 Loading of Posts

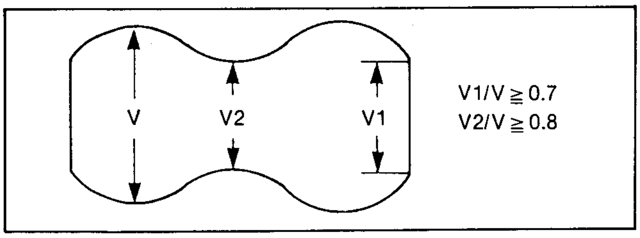

V
V2
V1
V1/V ≧ 0.7
V2/V ≧ 0.8

Figure M20 Spec. of Envelope Figure

11. Turn the Tracking VR from end to end again and then back to the detent (Fix) position.
    At the detent position, the HD Audio FM envelope waveform should be at maximum. If it is not at maximum then "ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION" is necessary.
    (Refer to "FINE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION".)

3-2-6. PRELIMINARY CONFIRMATION OF THE A/C HEAD HEIGHT

∗ Note:

This procedure should be performed only when the A/C Head is replaced.

∗ Tools and Equipment Required:

Nut Driver (Purchase locally)

With the tape running, look at the lower edge of the control head and check if the lower edge of tape runs along the lower edge of the control head.
If it doesn't, slightly turn the nut (A) behind the A/C Head (Figure M21) to either lower or raise the A/C head so that the tape runs along the lower edge of the control head.
Turn the nut (A) clockwise to lower the head, and counterclockwise to raise it. (Figure M21)

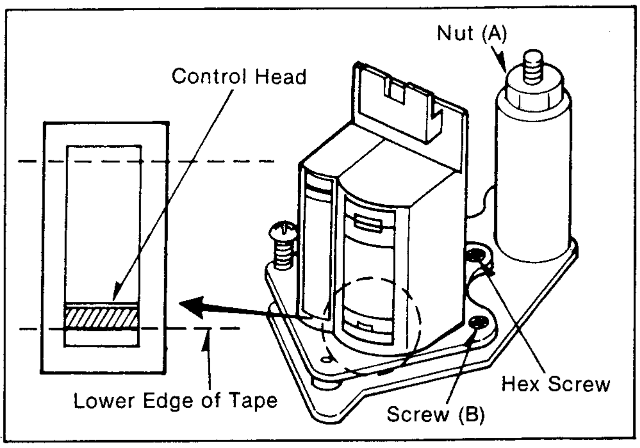

Nut (A)
Control Head
Lower Edge of Tape
Hex Screw
Screw (B)

Figure M21

3-2-7. ADJUSTMENT OF THE A/C HEAD HEIGHT AND AZIMUTH

∗ Note:

This procedure should be performed only when the A/C Head is replaced and posts height are readjusted.

∗ Tools and Equipment Required:

Nut Driver (Purchase locally)
Alignment Tape VFM8080HMDH

1. Connect the scope CH1 to the HD/NOR Audio Output CH1 and the scope CH2 to the HD/NOR Audio Output CH2 on the rear panel.
2. Play back the 2nd portion (Normal Audio 6kHz) of the alignment tape, VFM8180HMDH.
3. Adjust the screw (B) so that the CH2 output level becomes maximum. (Figure M22)

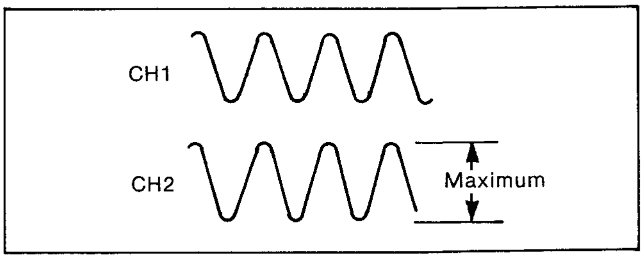

CH1
CH2
Maximum

Figure M22

4. Then adjust the nut (A) so that the CH2 envelope becomes maximum.
5. Readjust the screw (B) so that the phases of the both channel are matched as shown below. (Figure M23)

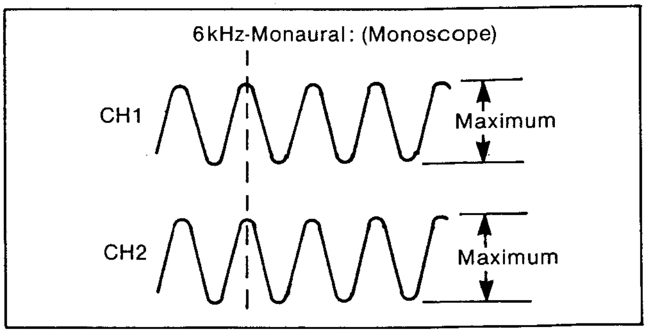

6kHz-Monaural: (Monoscope)
CH1
Maximum
CH2
Maximum

Figure M23 Adjustment of A/C Head Height and Azimuth-(3)

3-2-8. COARSE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION

*** Note:**

This procedure should be performed only when the A/C head is replaced, and after performing the tape interchangeability adjustment.

*** Tools and Equipment Required:**

H. Position Adj. Fixture... VFK0189
Alignment Tape.. VFM8180HMDH

1. Set the Tracking Control VR to the center detent (fixed) position.
2. Connect the scope CH1 to TP1 on the mechanism conn. C.B., and scope CH2 to the HD/Normal Audio Output CH2 on the rear panel.
3. Play back 1st position (Monoscope and Normal Audio 3kHz) of the Alignment tape VFM8180HMDH.
4. Adjust A/C head horizontal position nut so that the phase of Audio drop out and RF envelope drop out becomes the same. (Figures M24 and M25)

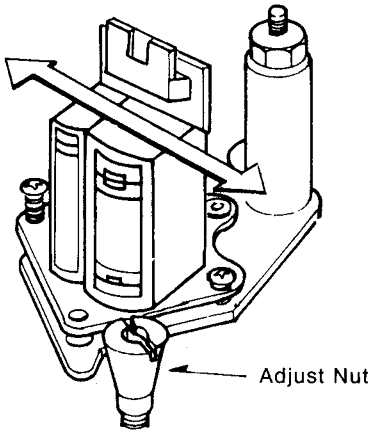


Figure M24

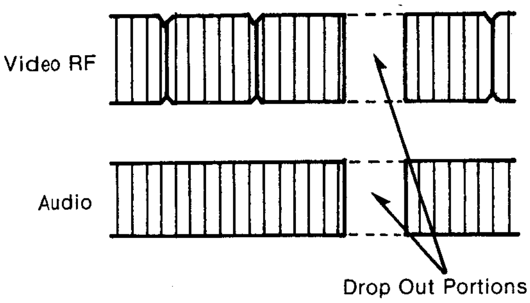


Figure M25

3-2-9. FINE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION (X-VALUE)

*** Note:**

When the A/C head is replaced, the coarse adjustment of the A/C head horizontal position is required before performing this fine adjustment.

*** Tools and Equipment Required:**

H. Position Adj. Fixture... VFK0189
Alignment Tape.. VFM8180HMDH

1. Set the Tracking Control VR to the center detent (fixed) position.
2. Connect the scope CH1 to TP1 on the mechanism conn. C.B., and TP2 on the same C.B. to Ext-trigger the oscilloscope.
3. Playback 2nd position (Monoscope) of the Alignment tape, VFM8180HMDH.
4. Adjust the adjust nut so that the RF envelope output level becomes maximum at the detent position. (Figure M24)
5. Turn the Tracking VR from end to end and then back to the detent position.
   Confirm that the FM envelope output level is maximized at the detent position.

3-3. OTHER MECHANICAL ADJUSTMENT PROCEDURES

3-3-1. ADJUSTMENT OF THE SAFETY SWITCH

*** Specification:**

The switch should close when a cassette with an erase tab is inserted, and should open when a cassette without an erase tab is inserted. (Figure M26)

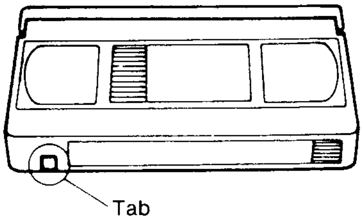


Figure M26

*** Equipment Required:**

Cassette Holder Fixture VFK0188

1. Remove the Top Panel, and cassette Compartment.
2. After inserting the fixture, slightly loosen 3 screws (A) by about half turn.
3. Turn the switch base counter clockwise and then slowly turn clockwise until the switch turn on.
4. Tighten 3 screws. (Figure M27)

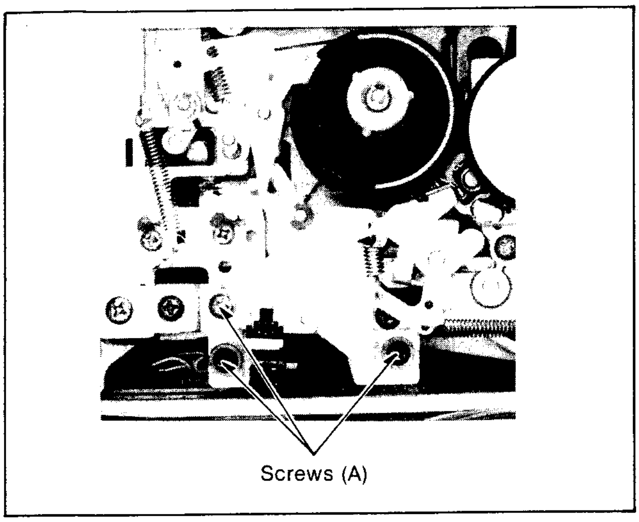


Figure M27

3-3-2. CONFIRMATION OF PRESSING FORCE AND POSITION ADJUSTMENT OF PRESSURE ROLLER

*** Equipment Required:**

Fan-Type Tension Gauge VFK66

1. Play back the cassette tape.
2. Set the Fan-Type Tension Gauge to the part (A) of Main Pressure Arm Unit.
3. Press the Arm with the Gauge, in the direction indicated by the arrow as shown below. (Figure M28)
4. Confirm that reading of the Tension Gauge is 1600±350g at the moment of tape stop.
5. If it is out of spec., replace the pressure spring.
6. Connect the Model AG-A600 (Remote Controller) and place the deck in the REV mode.
7. Turn the screw (B) clockwise with the pliers, so that the clearance (L) becomes 0.5±0.1mm.

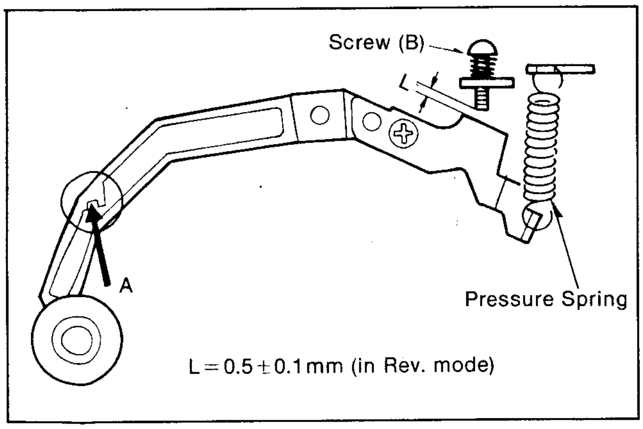


Figure M28

3-3-3. POSITION ADJUSTMENT OF TENSION POST

*** Equipment Required:**

Tension Post Adjustment Fixture VFK0187
Fine Adjustment Screwdriver.................................. VFK0136

1. Remove the Top Panel, Front Loading Unit and Bottom plate, and open up the Bottom Circuit Boards.
2. Viewing from the bottom side, slowly turn the Large Pulley counterclockwise by hand until the unit is in the play mode position. (Figure M29)

Note:

Do not use excessive force to turn the pulley.

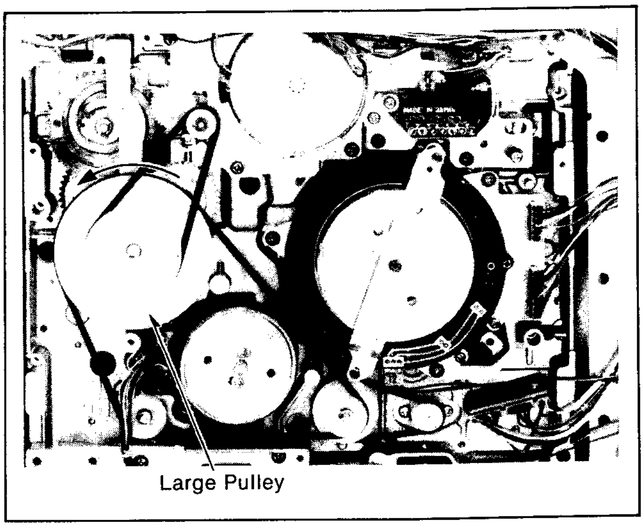


Figure M29

3. Place the Tension Post Adjustment Fixture (VFK0187) over the Reel Tables.
4. Slightly loosen the screw (A) securing the Tension Band Bracket. (Figure M29)
5. Insert the Fine Adjustment Screwdriver into the adjustment hole (B) next to the screw and adjust the Tension Band Bracket so that the Tension Post just touches the Tension Post Adjustment Plate. (Figure M30)

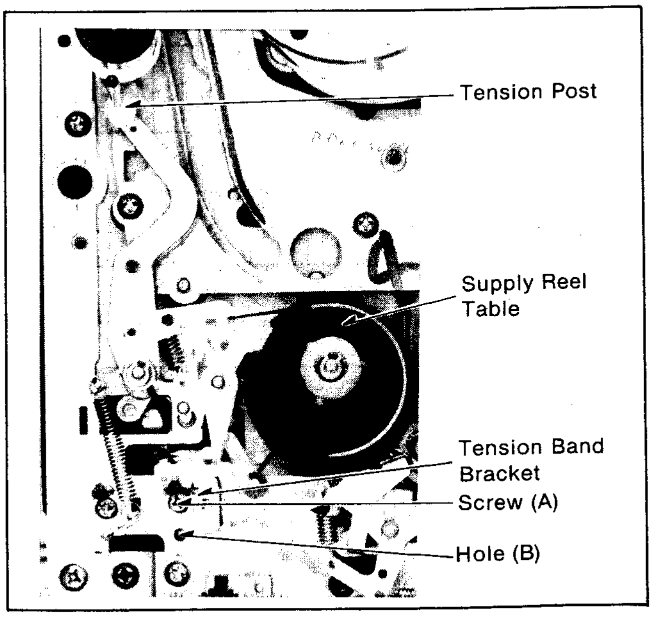


Figure M30

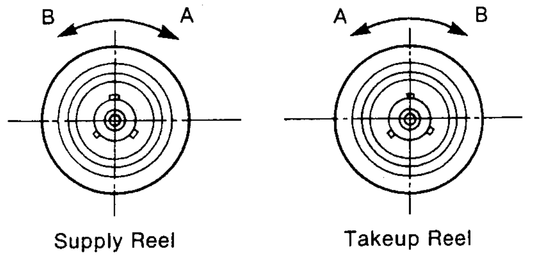
3-3-4. CONFIRMATION/ADJUSTMENT OF THE BRAKE TORQUE

A. Confirmation Procedure

*** Equipment Required:**

Torque Gauge VFK0133
Adaotor for Gauge VFK0134

1. Remove the Top Panel and the Front Loading Unit.
2. Attach the adaptor to the torque gauge and place the deck in STOP mode.
3. Place the torque gauge on the reel table. The weight of the gauge should not rest on the reel table.
4. Turn the torque gauge in the direction indicated in Figure M31 until the brake begins slipping and read the torque.



	A	B
Takeup	450~800g-cm	70~150g-cm
Supply		

Figure M31 Brake Torque Spec.

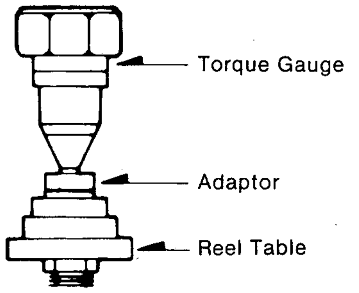


Figure M32 Measuring Method

B. Adjustment Procedure

To adjust the brake torque, move the spring to a different notch on the brake arm. Increase the brake torque by moving the spring to an outer notch and decrease the brake torque by moving the spring to an inner notch. (Figure M33)

Note:

If the proper brake torque cannot be obtained by changing the position of the spring, clean the brake surface of the reel table with a soft cloth and remeasure the brake torque. If it is still out of specification, replace the Brake Arm Unit.

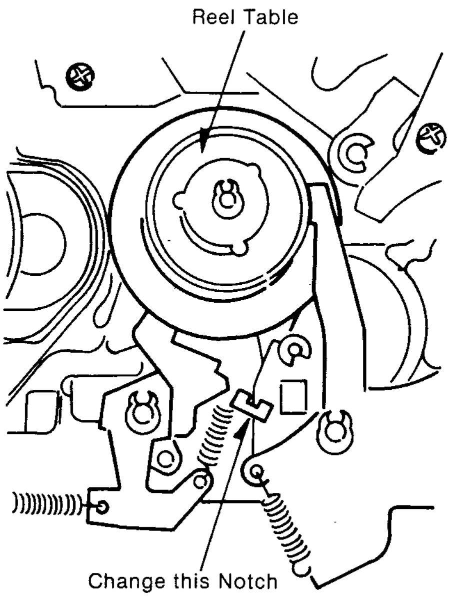


Figure M33 Adjustment of Brake Torque

3-3-5. CONFIRMATION OF TAKEUP TORQUE

*** Equipment Required:**

Dial Torque Gauge VFK0133
Adaptor for Gauge VFK0134

*** Specification:**

in FF Mode .... more than 400g-cm
in REW Mode .... more than 400g-cm

1. Remove the Top Panel and the Front Loading Unit.
2. Attach the adaptor to the torque gauge and blind the takeup and supply photo transistors with pieces of black tape. Lower the cassette compartment and turn the power switch on.
3. Set a torque gauge on the Takeup Reel Table, push the FF button and read torque on gauge. (Figure M34)

Note:

While measuring, the weight of the gauge should not rest on the reel table.

4. Set the torque gauge to the Supply Reel Table, Push the rewind button for rewind mode. Read the torque on gauge.

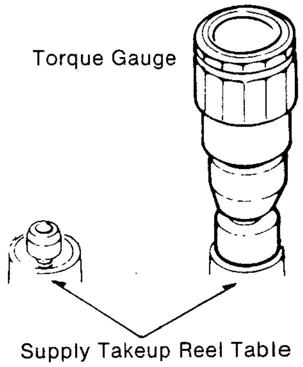


Figure M34 Measuring Method

5. Remove the black tape from the takeup and supply photo transistors.

Note:

There are no-adjustments here.
If the torque readings are off considerably, rollers or idlers or reel tables may need replacement.

3-3-6. MEASUREMENT AND ADJUSTMENT OF THE BACK TENSION

A. Measurement Procedure

* **Equipment Required:**

Back Tension Meter (Tentelometer, Model T2-H7-UM)
VHS Cassette Tape (240-minute tape)

* **Specification** .... **20~25g**

1. Remove the Top Panel and the Front Loading Unit.
2. Pull the erase head in the direction indicated by the arrow in Figure M35 secure it with a piece of adhesive tape.
3. Play back the cassette tape from the beginning and wait until the tape movement has stabilized. (For approx. 10 to 20 seconds)
4. Insert tension meter over the tape and take a reading. (Figure M35)

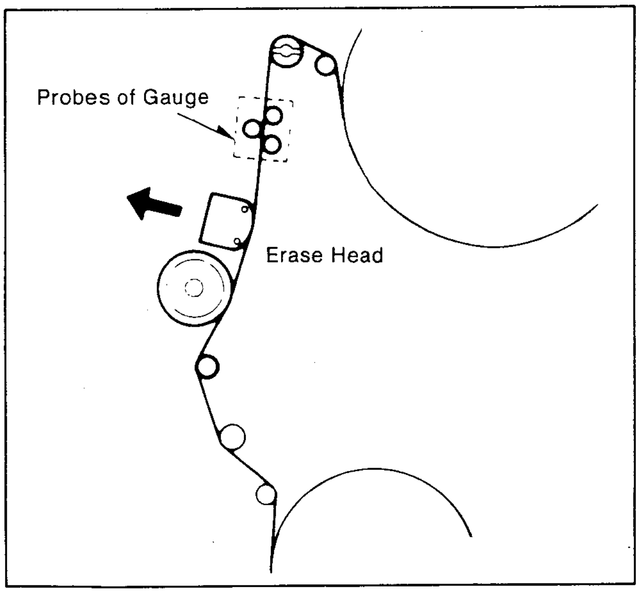


Figure M35 Measurement of Back Tension

Note:

1. While measuring, make sure that the three probes of the meter are all in good contact with the tape, and out of contact with the supply inertia roller.
2. As the tension meter is very sensitive, we recommended taking 3 separate readings.

B. Adjustment Procedure

* **Equipment Required:**

Fine Adjustment Screwdriver VFK0136

1. Remove the Top Panel and the Front Loading Unit.
2. Loosen the screw (A) and insert the fine adjustment screwdriver into the hole (B).
3. Move the adjustment screwdriver in either of the directions in Figure M36 to obtain the specified tension. Turn the driver clockwise to decrease the tension, counterclockwise to increase it.
4. Tighten the screw (A) and remeasure the tension with the meter to confirm it. (Figure M36)

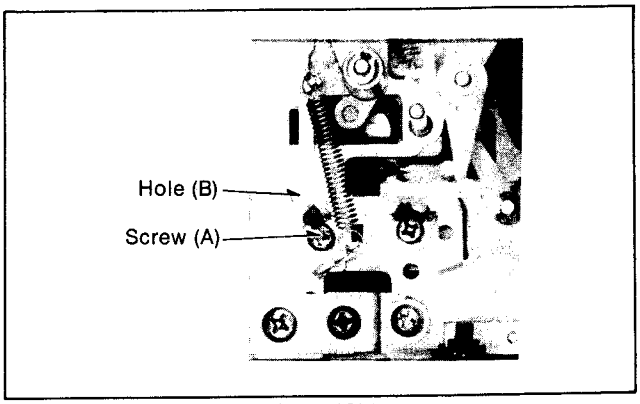


Figure M36

3-3-7. ADJUSTMENT OF THE REEL TABLE HEIGHTS

* **Equipment Required:**

Post Adjustment Plate VFK0138
Reel Table Height Fixture... VFK0139

1. Remove the Top Panel and the Front Loading Unit.
2. Place the Post Adjustment Plate over the reel tables.
3. Place the Reel Table Height Gauge in place so that the scraper of the gauge touches the cut-out portion of the plate, then set the Fixture to zero ("0"). (Figure M37)

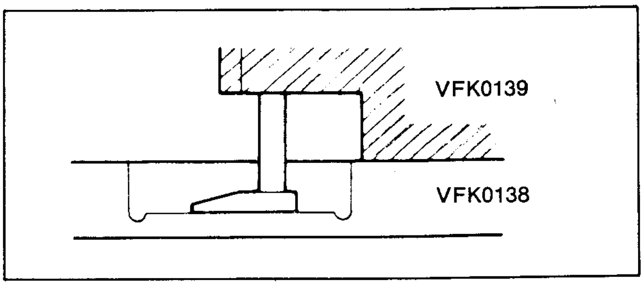


Figure M37

4. Measure the height of the top surface of either reel table and note the difference in height from the plate cut-out. Repeat this procedure for the other reel table.
5. If the difference is more than 0.1mm higher or lower, replace the poly slider washer located under the reel table with one of the appropriate thickness.
   Poly slider washers are available in thickness of 0.13mm, 0.25mm and 0.5mm. (Figure M38)

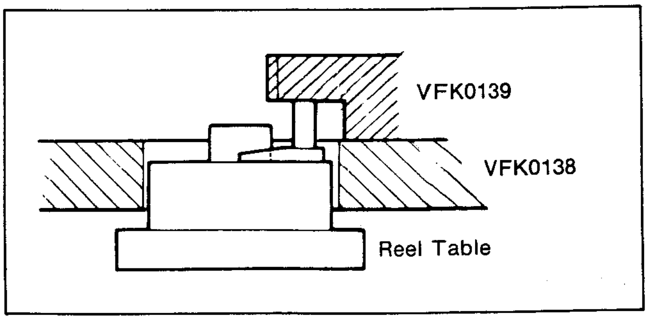


Figure M38

3-3-8. ADJUSTMENT OF THE SUB-LOADING ARM UNIT (FOR AG-6810 ONLY)

*** Note:**

The sub-loading arm has been installed on AG-6810 only.

*** Equipment Required:**

Eccentric Screwdriver.. VFK0135

1. Remove the Top Panel and the Front Loading Unit.
2. Turn the power switch on.
3. Insert a cassette tape to in Front Loading Unit, then press the play button.
4. Turn the power switch off.
5. Loosen the screw (B), and insert the eccentric screwdriver into the adjustment hole (A).
6. Adjust the position of the sub-loading threading arm unit so that the gap "t" between the Sub-Loading arm and the A/C head is 0.5mm± 0.2mm. (Figure M39)

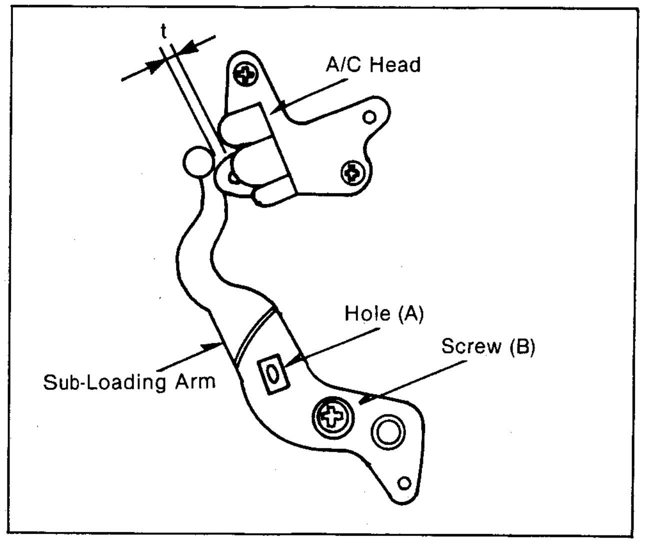

t
A/C Head
Hole (A)
Screw (B)
Sub-Loading Arm

Figure M39

3-3-9. ADJUSTMENT OF CAM GEAR AND MODE SELECT SWITCH

General Condition:

The mechanism of this model is mostly engaged with the electrical circuit, System Control Circuit, through the mode select switch. Therefore the relation between the mode switch and the cam gear decides all further mechanical movement of the mechanical parts such as levers, gears, rollers and so on.
If the adjustment of this item is performed improperly, the deck will be unloaded or compulsorily stopped. It may result in damaged to same mechanical or electrical parts.

Note:

Before the adjustments, turn power switch on and insert a cassette tape then set the mode select switch to the stop position, and pull the plug.

A. Adjustment Procedures of Cam Gear

1. Turn Loading gear clockwise until post 2 and 3 are fully unloaded. The small projection on the loading gear will be at the top, in the condition of Unloading Completion. (Figures M40 and M41)

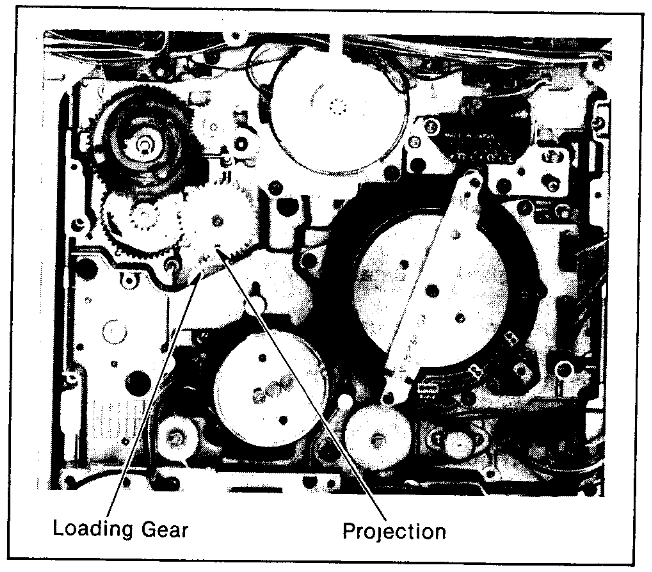

Loading Gear
Projection

Figure M40

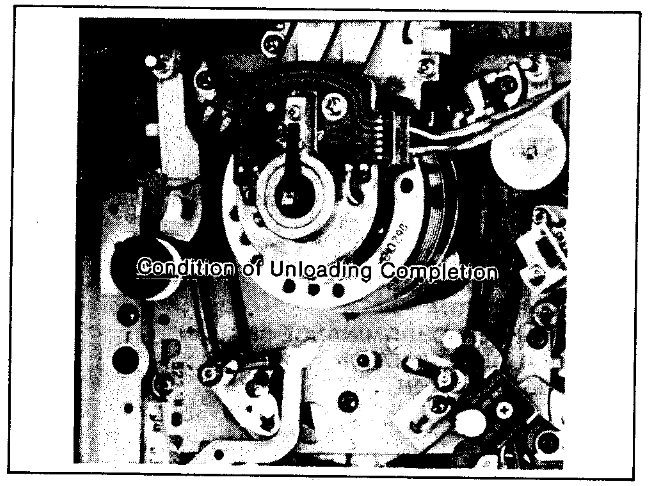

Condition of Unloading Completion

Figure M41

2. Install the action gear so that the 4th dimple to the left from the hole on the action gear meets the projection on the loading gear. Ensure that the loading gear is still in the condition of unloading completion. (Figure M42)

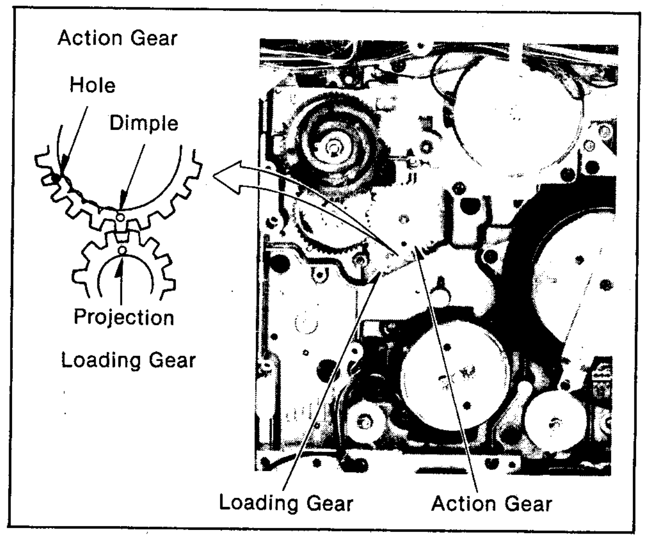

Action Gear
Hole
Dimple
Projection
Loading Gear
Loading Gear
Action Gear

Figure M42

3. Slowly slide the main lever so the V-shaped mark meets the V-shaped mark of the mode select switch. This will result in the main lever and mode select switch being in the stop position.
4. Insert the cam gear so the hole (A) on the gear meets the hole on the main lever. To make this easier, use the small hex. wrench (VFK75) or metal pin. Also be sure the 2 V-shaped marks are fixed. (Figure M43)

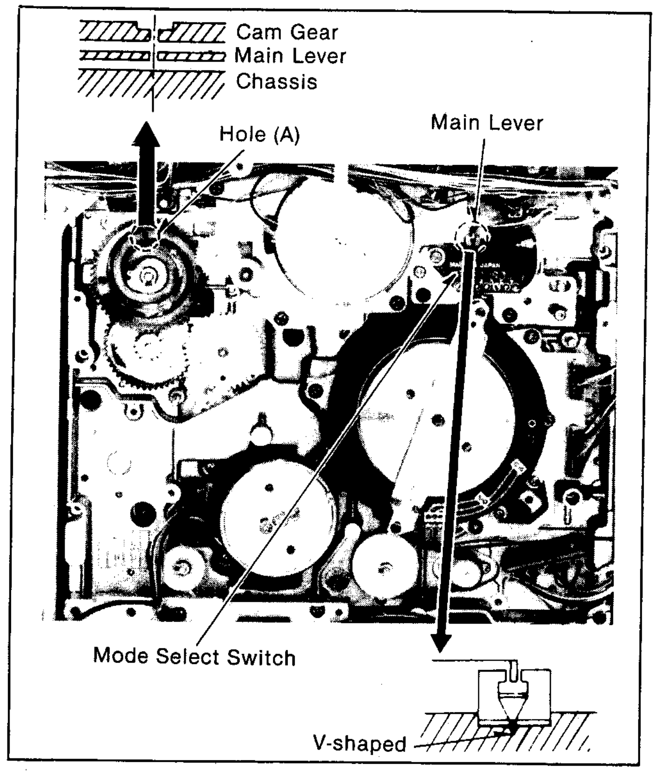

Cam Gear
Main Lever
Chassis
Hole (A)
Main Lever
Mode Select Switch
V-shaped

Figure M43

5. Install the sector gear so the pin on the sector gear meets the inner slot of the cam gear (simple slot side). Install 2 retaining rings to mount cam gear and sector gear. (Figure M44)

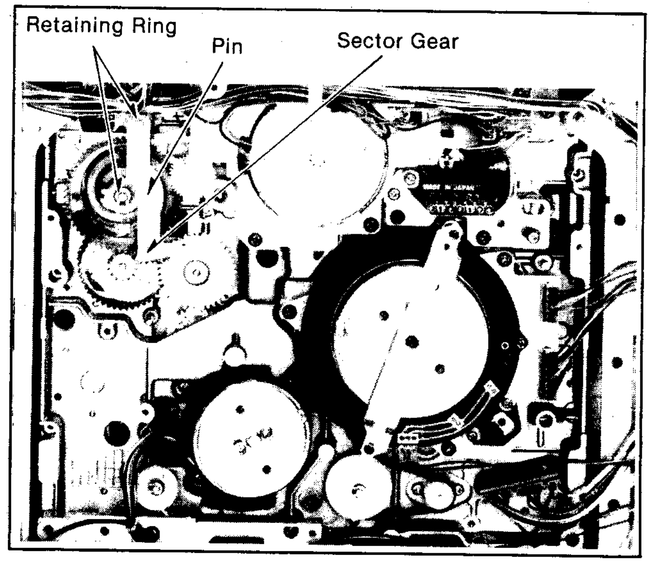

Retaining Ring
Pin
Sector Gear

Figure M44

6. The final condition should be as shown below, and at the same time 2 V-shaped marks should be fixed at the mode select switch. (Figure M45)

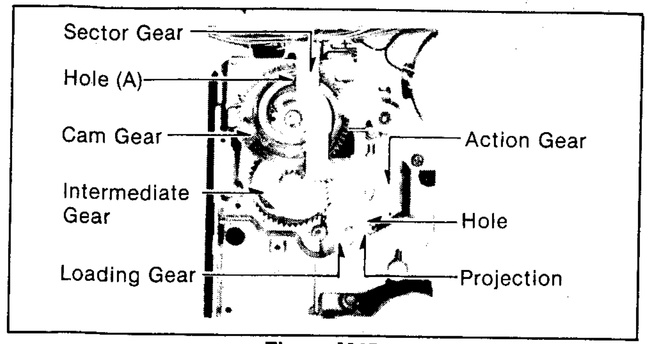

Sector Gear
Hole (A)
Cam Gear
Intermediate Gear
Loading Gear
Action Gear
Hole
Projection

Figure M45

7. Install the gear protector and tighten the nut for mounting it. Install the large gear so the teeth contact the outer teeth of the intermediate gear. Then install a retaining ring to mount it.
8. Install the belts and belt cover and tighten 2 screws (C). Turn the large pulley in both direction to confirm the smooth movement of this mechanism. (Figure M46)

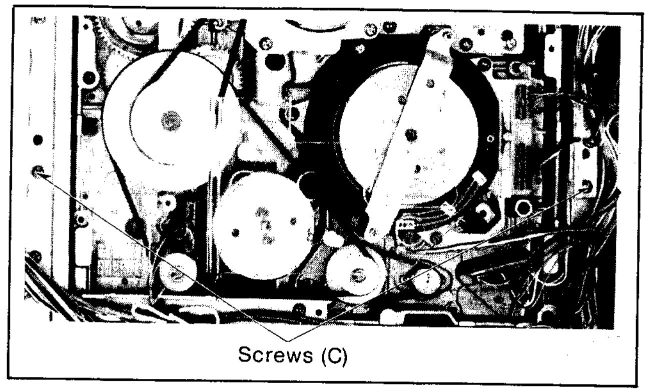


Figure M46

B. Adjustment Procedures for Mode Select Switch

*** Equipment Required:**

Fine Adjustment Screwdriver.................................... VFK0136

1. Fix the main lever in the condition of unloading completion.
2. Slightly loosen 2 screws (A) and place the fine adjustment screwdriver into the hole (B).
3. Turning the fine adjustment screwdriver, adjust the position of the mode select switch so that the 2 V-shaped marks of the mode select switch just meet at the same position. Then tighten two screws (A). (Figure M47)
4. Make sure that the movement of the deck is normal.

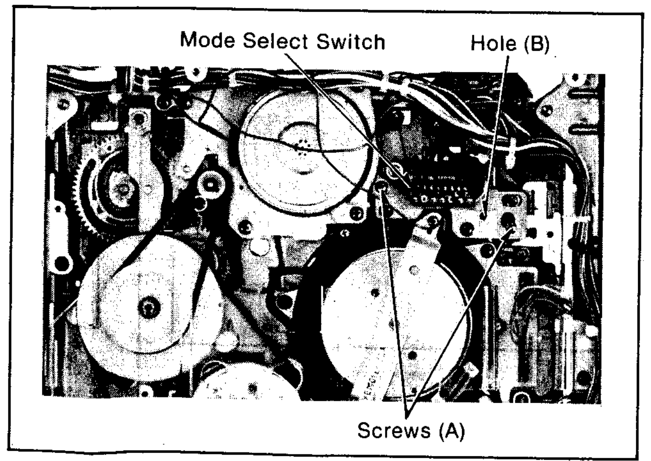
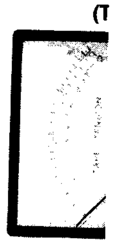

Mode Select Switch
Hole (B)
Screws (A)

Figure M47

VFM8180

Refer to T
Order No.

Back Tens
(T



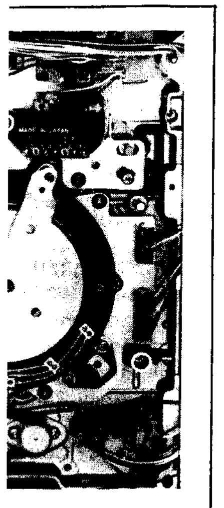
VFK0133
VFK0180

VFK0134

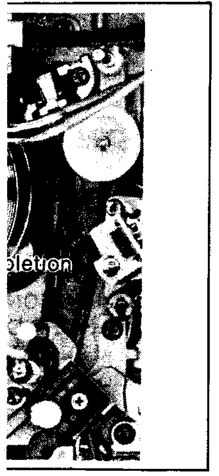
VFK0135

VFK0136

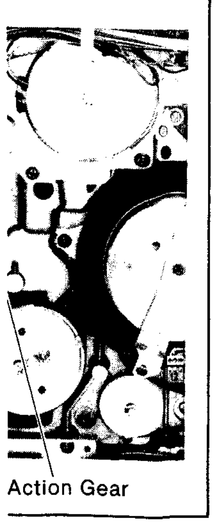
Scale: 1/2



on



n dimple to the left
s the projection on
iding gear is still in
. (Figure M42)



3. Slowly slide the main lever so the V-shaped mark meets the V-shaped mark of the mode select switch. This will result in the main lever and mode select switch being in the stop position.
4. Insert the cam gear so the hole (A) on the gear meets the hole on the main lever. To make this easier, use the small hex. wrench (VFK75) or metal pin. Also be sure the 2 V-shaped marks are fixed. (Figure M43)

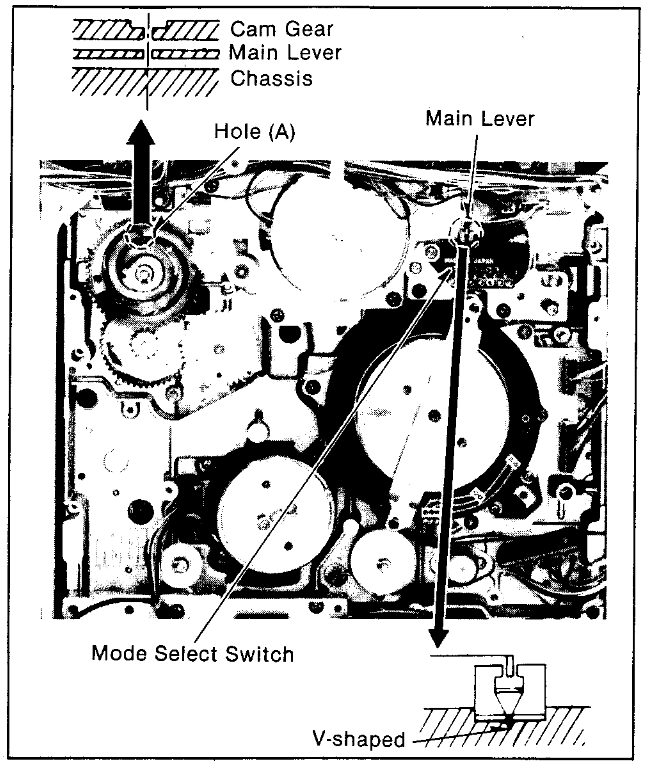


Figure M43

5. Install the sector gear so the pin on the sector gear meets the inner slot of the cam gear (simple slot side). Install 2 retaining rings to mount cam gear and sector gear. (Figure M44)

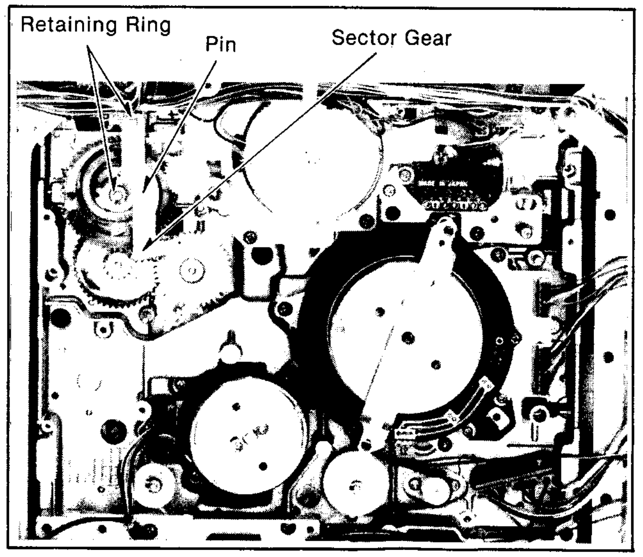


Figure M44

6. The final condition should be as shown below, and at the same time 2 V-shaped marks should be fixed at the mode select switch. (Figure M45)

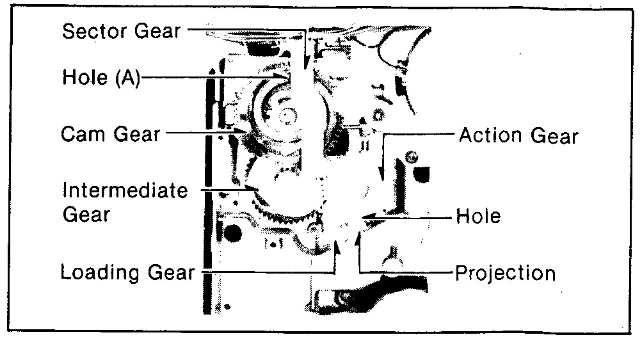


Figure M45

7. Install the gear protector and tighten the nut for mounting it. Install the large gear so the teeth contact the outer teeth of the intermediate gear. Then install a retaining ring to mount it.
8. Install the belts and belt cover and tighten 2 screws (C). Turn the large pulley in both direction to confirm the smooth movement of this mechanism. (Figure M46)

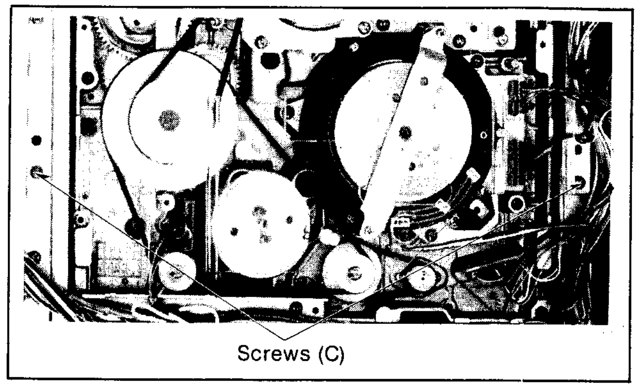


Figure M46

B. Adjustment Procedures for Mode Select Switch

*** Equipment Required:**

Fine Adjustment Screwdriver VFK0136

1. Fix the main lever in the condition of unloading completion.
2. Slightly loosen 2 screws (A) and place the fine adjustment screwdriver into the hole (B).
3. Turning the fine adjustment screwdriver, adjust the position of the mode select switch so that the 2 V-shaped marks of the mode select switch just meet at the same position. Then tighten two screws (A). (Figure M47)
4. Make sure that the movement of the deck is normal.

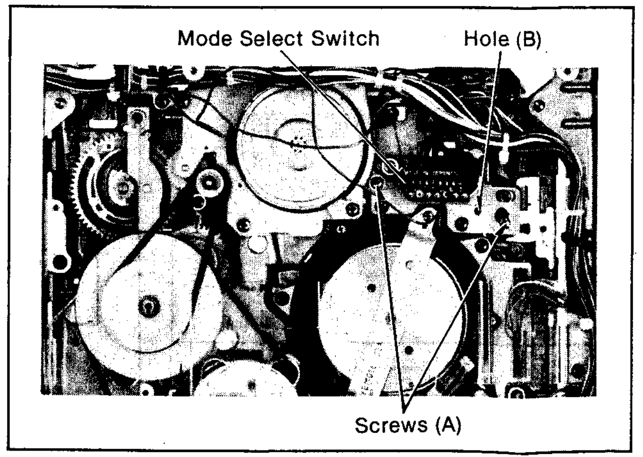
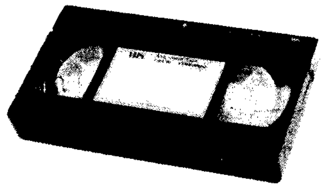


Figure M47

Servicing Fixtures & Tools

VFM8180HMDH VHS Alignment Tape



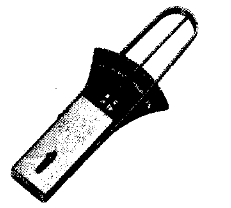
*	(1)	*	(2)	*	(3)	*	(4)	*

No.	VIDEO	FM AUDIO	NORMAL AUDIO
(1)	MONOSCOPE	——	3kHz (MONO)
(2)	MONOSCOPE	1kHz	6kHz (MONO)
(3)	——	——	400, 1k, 5k, 8kHz (MONO)
(4)	——	——	3kHz (2CH)

* TRANSLUCENT TAPE (150mm)

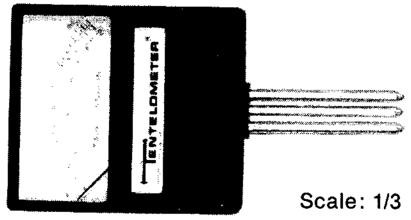
Refer to Technical Information Order No. VRD-T-84-9001

VFK66 **Fan Type Tension Gauge**



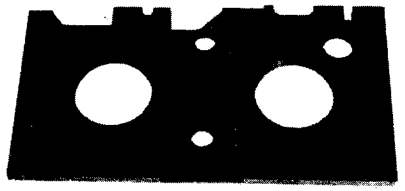
Scale: 1/6

Back Tension Meter **(T2-H7-UM)**
(Tentelometer, Made in U.S.A.)



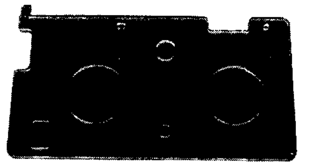
Scale: 1/3

VFK0138 **Post Adjustment Plate**



Scale: 1/4

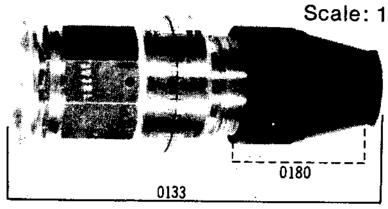
VFK0187 **Tension Post Adj. Fixture**



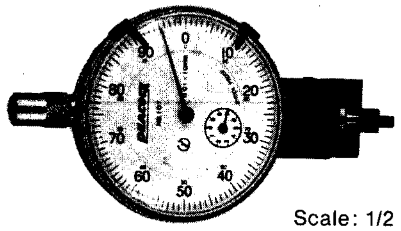
Scale: 1/5

VFK0133 **(Digital Torque Gauge)**
VFK0180 **(Plastic Clamper Only)**

Scale: 1/2

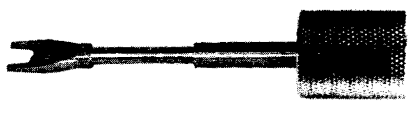


VFK0139 **Reel Table Height Fixture**



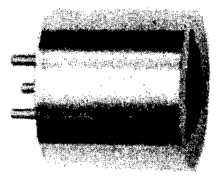
Scale: 1/2

VFK0189 **H-Position Adj. Fixture**



Scale: 1/2

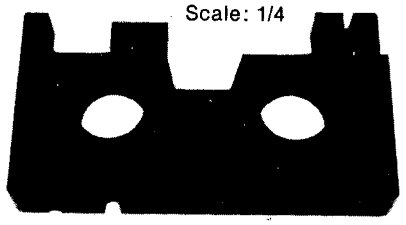
VFK0134 **Adaptor for VFK0133**



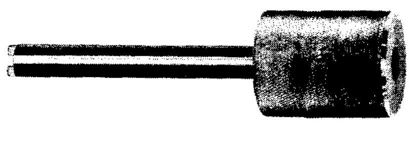
Scale: 1

VFK0188 **Cassette Holder Fixture**

Scale: 1/4



VFK0137 **Post Adjustment Screwdriver**

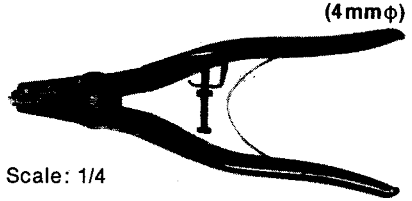


Scale: 1/2

VFK0135 **Eccentric Screwdriver**

Scale: 3/5

VFK0144 **Retaining Ring Remover (3mmφ)**
VFK0145 **Retaining Ring Remover (4mmφ)**



Scale: 1/4

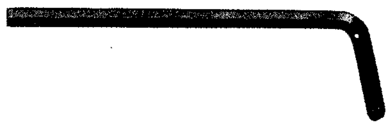
VFK0268
Stator A. Adj. Jig

Scale: 1/1

VFK0136 **Fine Adjustment Screwdriver (3mmφ)**

Scale: 1/2

VFK0146 **Hex. Wrench (0.9mm)**
VFK75 **Hex. Wrench (1.25mm)**
VFK76 **Hex. Wrench (1.5mm)**



VFK27
Head Cleaning Stick

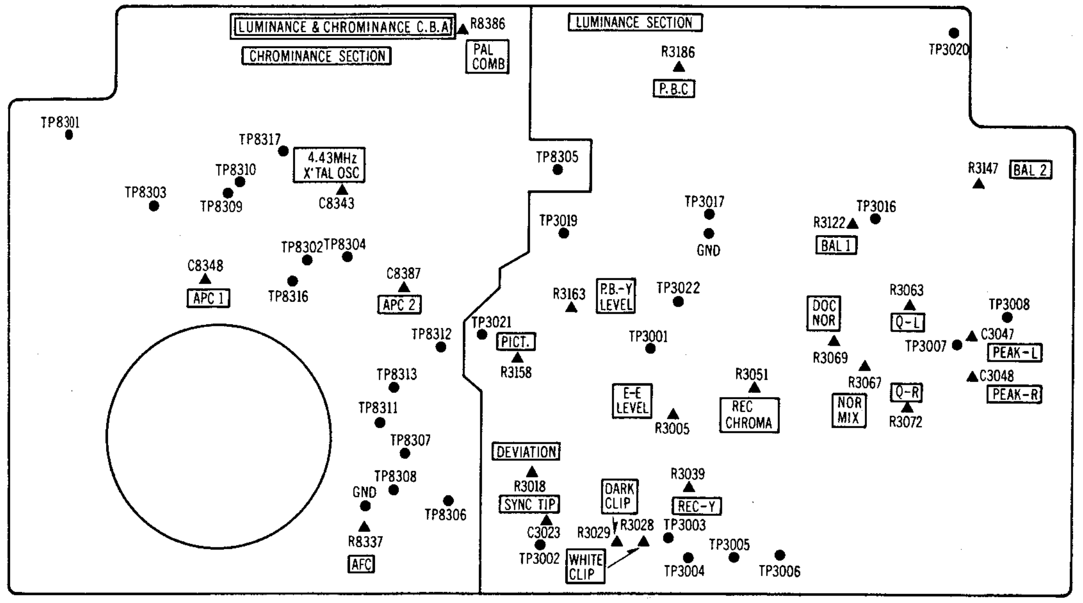
MOR265 **Morlyton Grease**
(Cam Gear, Slide Selection,
Hyper Pressure Section etc)

High Quality Machine Oil
<Purchase Locally>
(Reel Shaft, Capstan Shaft etc.)

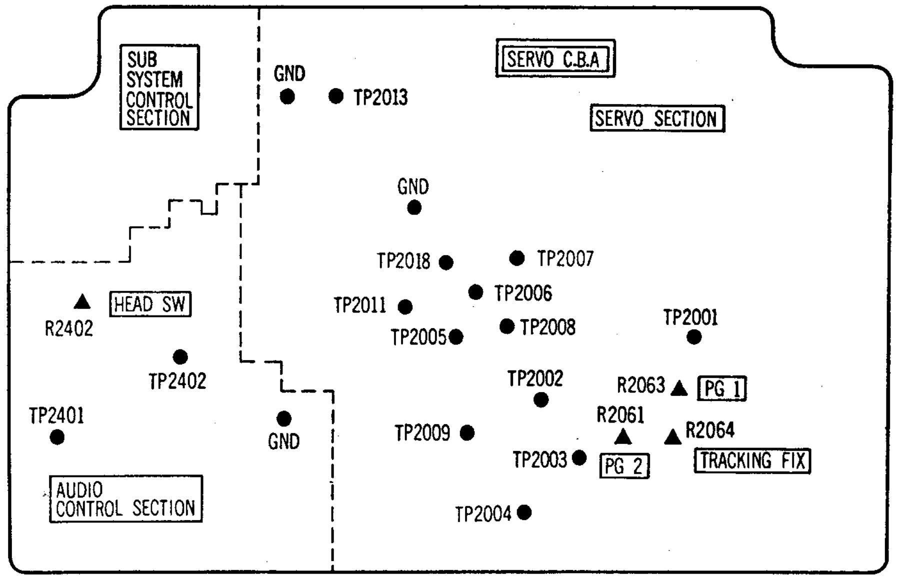
Cleaning Liquid
(Freon TF., Alchol)
<Purchase Locally>
(Tape Transport, Rubber Parts etc.)

Location of Test Points & Controls

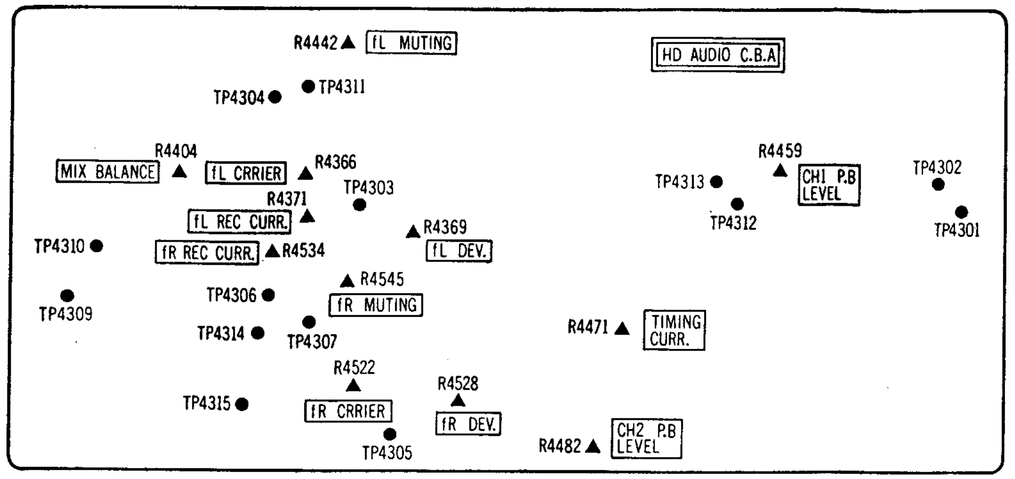
Luminance & Chrominance C.B.A. (VEP03164H)


LUMINANCE & CHROMINANCE C.B.A
R8386
CHROMINANCE SECTION
PAL COMB
LUMINANCE SECTION
R3186
P.B.C
TP3020
TP8301
TP8317
4.43MHz X'TAL OSC
C8343
TP8310
TP8303
TP8309
TP8305
TP3019
TP3017
GND
TP3016
R3122
BAL 1
R3147
BAL 2
TP8302
TP8304
C8348
APC 1
TP8316
C8387
APC 2
TP8312
TP3021
PICT.
R3158
R3163
P.B.-Y LEVEL
TP3022
TP3001
DOC NOR
R3069
R3063
Q-L
TP3008
C3047
TP3007
PEAK-L
C3048
PEAK-R
R3067
Q-R
R3072
NOR MIX
R3051
REC CHROMA
E-E LEVEL
R3005
TP8313
TP8311
TP8307
TP8308
GND
TP8306
R8337
AFC
DEVIATION
R3018
SYNC TIP
C3023
TP3002
R3029
R3028
DARK CLIP
WHITE CLIP
R3039
REC-Y
TP3003
TP3004
TP3005
TP3006

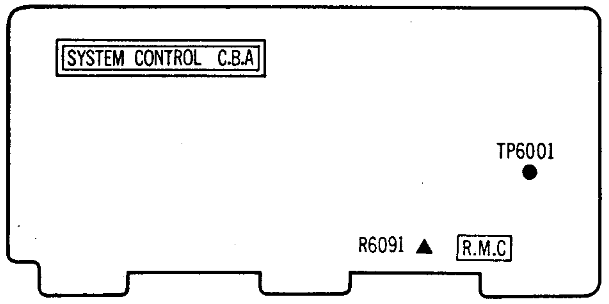
Servo C.B.A. (VEP02212D)


SUB SYSTEM CONTROL SECTION
GND
TP2013
SERVO C.B.A
SERVO SECTION
GND
TP2018
TP2007
TP2006
TP2011
TP2008
TP2005
TP2001
HEAD SW
R2402
TP2402
TP2401
GND
TP2002
R2063
PG 1
R2061
R2064
TP2009
TP2003
PG 2
TRACKING FIX
TP2004
AUDIO CONTROL SECTION

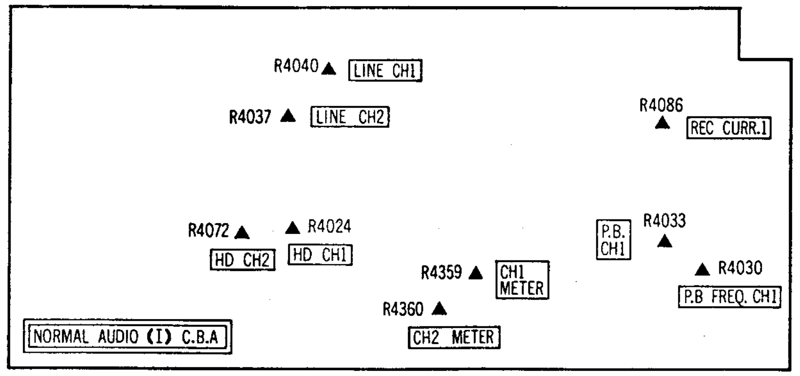
HD Audio C.B.A. (VEP04115B1)


R4442
fL MUTING
HD AUDIO C.B.A
TP4304
TP4311
R4404
MIX BALANCE
fL CRRIER
R4366
R4371
TP4303
fL REC CURR.
R4369
fL DEV.
fR REC CURR.
R4534
R4459
CH1 P.B LEVEL
TP4313
TP4312
TP4302
TP4301
TP4310
TP4309
R4545
TP4306
fR MUTING
TP4314
TP4307
R4522
fR CRRIER
R4528
fR DEV.
TP4315
TP4305
R4471
TIMING CURR.
R4482
CH2 P.B LEVEL

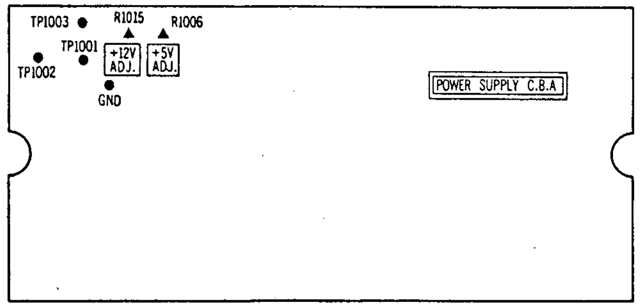
System Control C.B.A. (VEP06281B1)


SYSTEM CONTROL C.B.A
TP6001
R6091
R.M.C

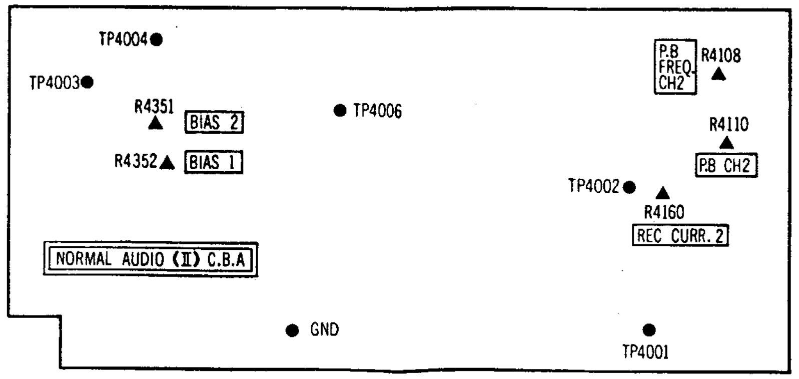
Normal Audio (I) C.B.A. (VEP04116B)


R4040
LINE CH1
R4037
LINE CH2
R4086
REC CURR.1
R4072
R4024
HD CH2
HD CH1
P.B. CH1
R4033
R4030
P.B FREQ. CH1
R4359
CH1 METER
R4360
CH2 METER
NORMAL AUDIO (I) C.B.A

Power Supply C.B.A. (VEP01138D1)


TP1003
R1015
R1006
TP1001
TP1002
+12V ADJ.
+5V ADJ.
GND
POWER SUPPLY C.B.A

Normal Audio (II) C.B.A. (VEP04118B)


TP4004
TP4003
R4351
BIAS 2
R4352
BIAS 1
TP4006
P.B FREQ. CH2
R4108
R4110
P.B CH2
TP4002
R4160
REC CURR. 2
NORMAL AUDIO (II) C.B.A
GND
TP4001

ELI

This section provi
cedures which may
VCR Model NV-681

TEST EQUIPM

1. D.V.M. (Digital V
   Meter)
   Voltage Range:
2. Dual-Trace Oscil
   Voltage:
   Frequency Rang
   Probes:
3. Frequency Coun
   Frequency Rang
4. Signal Generato
   Frequency Rang
5. Video Sweep Ge
   Frequency Rang
6. Color TV/Monito
7. Plastic Tip Drive
8. Spectrum Analy
9. VHS Alignment

ADJUSTMENT

These adjustment
tions.

1. POWER SUPPL
2. SYSTEM CONT
3. SERVO SECTIO
4. LUMINANCE &
5. NORMAL AUDI
6. HD AUDIO SEC

1. POWER SU

Note: Unless other
are located

1-1. +5V D.C.

Test Point: TP10
Adjustment: R100

1. Connect the D.
   REC · PLAY mo
2. Adjust the +5
   +5V±0.1V D.C.

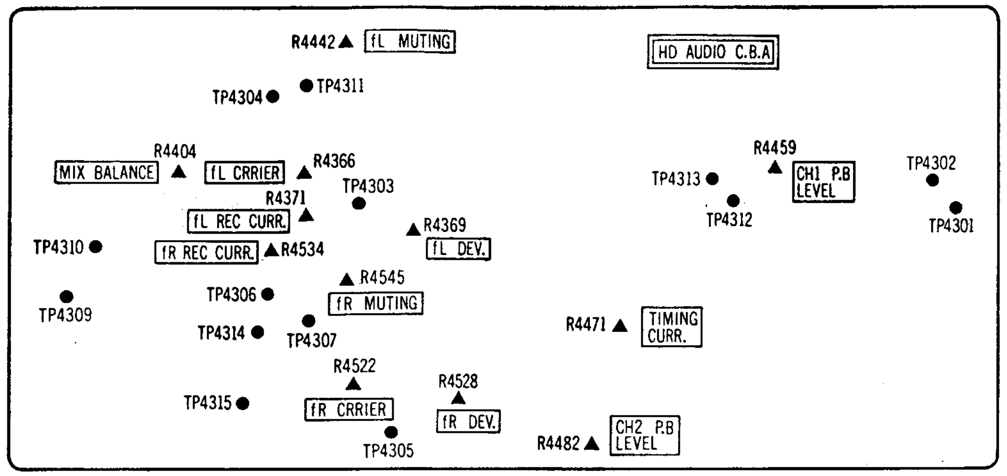
1-2. +12V D.C.

Test Point: TP10
Adjustment: R101

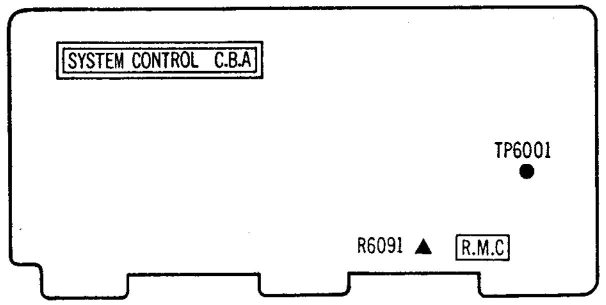
1. Connect the D.
   REC · PLAY mo
2. Adjust the +1
   +12V±0.1V D.

n of Test Points & Controls

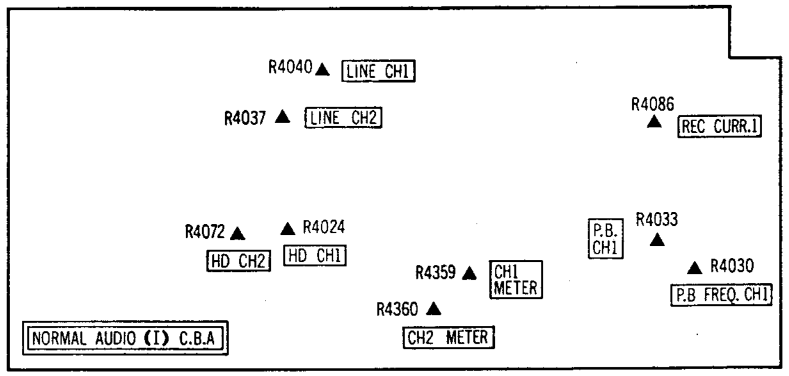
HD Audio C.B.A. (VEP04115B1)


R4442 fL MUTING
HD AUDIO C.B.A
TP4304
TP4311
R4404
MIX BALANCE
fL CRRIER
R4366
R4371
TP4303
fL REC CURR.
R4369
fL DEV.
TP4310
fR REC CURR.
R4534
R4545
TP4306
fR MUTING
TP4309
TP4314
TP4307
R4522
fR CRRIER
TP4315
TP4305
R4528
fR DEV.
R4459
CH1 P.B LEVEL
TP4313
TP4312
TP4302
TP4301
R4471
TIMING CURR.
R4482
CH2 P.B LEVEL

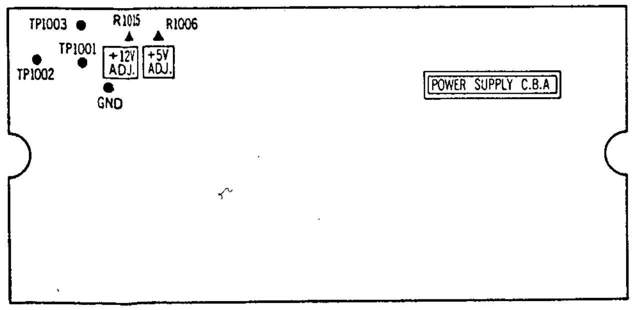
System Control C.B.A. (VEP06281B1)


SYSTEM CONTROL C.B.A
TP6001
R6091
R.M.C

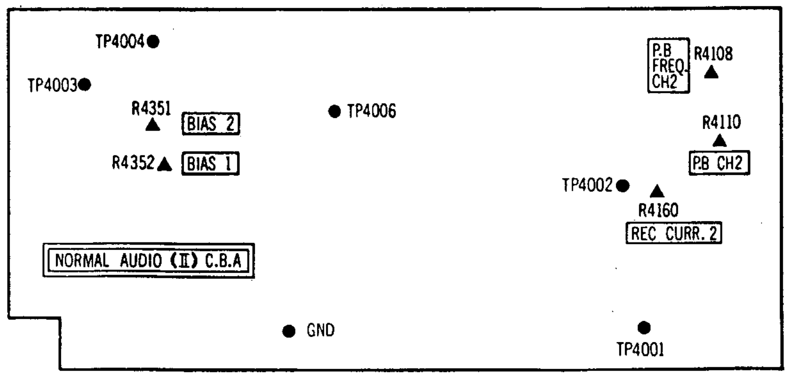
Normal Audio (I) C.B.A. (VEP04116B)


R4040 LINE CH1
R4037 LINE CH2
R4086
REC CURR.1
R4072
R4024
HD CH2
HD CH1
P.B. CH1
R4033
R4030
P.B FREQ. CH1
R4359
CH1 METER
R4360
CH2 METER
NORMAL AUDIO (I) C.B.A

Power Supply C.B.A. (VEP01138D1)


TP1003
R1015
R1006
TP1001
+12V ADJ.
+5V ADJ.
TP1002
GND
POWER SUPPLY C.B.A

Normal Audio (II) C.B.A. (VEP04118B)


TP4004
TP4003
R4351
BIAS 2
R4352
BIAS 1
TP4006
P.B FREQ. CH2
R4108
R4110
PB CH2
TP4002
R4160
REC CURR. 2
NORMAL AUDIO (II) C.B.A
GND
TP4001

ELECTRICAL ADJUSTMENT PROCEDURES

This section provides complete electrical adjustment procedures which may be required for electrical circuits of VHS VCR Model NV-6810.

TEST EQUIPMENT

1. D.V.M. (Digital Volt Meter) and V.T.V.M. (Vacuum Tube Volt Meter)
   Voltage Range: 0.001~50V
2. Dual-Trace Oscilloscope
   Voltage: 0.005~50V/div.
   Frequency Range: DC~10MHz
   Probes: 10:1 or 1:1
3. Frequency Counter
   Frequency Range: 0~300MHz
4. Signal Generator (Sinewave)
   Frequency Range: 0~10MHz
5. Video Sweep Generator
   Frequency Range: 0~10MHz
6. Color TV/Monitor
7. Plastic Tip Driver
8. Spectrum Analyzer
9. VHS Alignment Tape (VFM8180HMD)

ADJUSTMENT PROCEDURES

These adjustment procedures consist of the following sections.

1. POWER SUPPLY SECTION
2. SYSTEM CONTROL SECTION
3. SERVO SECTION
4. LUMINANCE & CHROMINANCE SECTION
5. NORMAL AUDIO SECTION
6. HD AUDIO SECTION

1. POWER SUPPLY SECTION

Note: Unless otherwise specified, all test points and controls are located on the Power Supply C.B.A.

1-1. +5V D.C. Adjustment

Test Point: TP1001
Adjustment: R1006 (+5V ADJ.)

1. Connect the D.V.M. to TP1001, and place the unit in the REC · PLAY mode.
2. Adjust the +5V ADJ. (R1006) so that the voltage is +5V±0.1V D.C.

1-2. +12V D.C. Adjustment

Test Point: TP1002
Adjustment: R1015 (+12V ADJ.)

1. Connect the D.V.M. to TP1002, and place the unit in the REC · PLAY mode.
2. Adjust the +12V ADJ. (R1015) so that the voltage is +12V±0.1V D.C.

2. SYSTEM CONTROL SECTION

Note: Unless otherwise specified, all test points and controls are located on the System Control C.B.A.

2-1. Reel Motor Current Adjustment

Test Point: TP6001
Adjustment: R6091 (R.M.C.)

1. Connect the D.V.M. to TP6001, and place the unit in the PLAY mode.
2. Connect a jumper between TP6003 and GND.
3. Make sure that the indication of D.V.M. is to meet the specifications as shown in Figure E1.

MARKING	VOLTAGE
PINK BLACK ORANGE RED	200~210mV 190~200mV 180~190mV 170~190mV

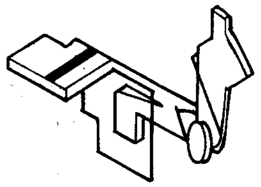


Figure E1

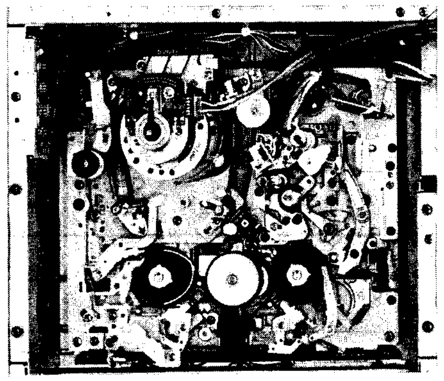


Figure E2

4. If it is out of the specifications, adjust the R.M.C. (R6091) so that it becomes the specification.

3. SERVO SECTION

Note: Unless otherwise specified, all test points and controls are located on the Servo C.B.A.

3-1. Video PG Shifter Adjustment

Test Points: TP2004,
TP3019, TP3020
(Luminance & Chrominance C.B.A.)
Adjustments: R2061 (PG2), R2063 (PG1)

1. Connect the scope to TP3020 on the Luminance & Chrominance C.B.A.

2. Playback the 2nd portion (Monoscope) of alignment tape, VFM8180HMD.
3. Adjust the TRACKING VR on the front panel so that the envelope level becomes maximum.
4. Change the scope CH1 to TP3019 on the Luminance & Chrominance C.B.A. and CH2 to TP2004.
5. Set the triggering slope of scope the "+" side, and expand the V sync portion signal.
6. Adjust the PG1 (R2063) so that the rising edge of switching pulse is 6.5H ± 0.5H before the V sync portion.

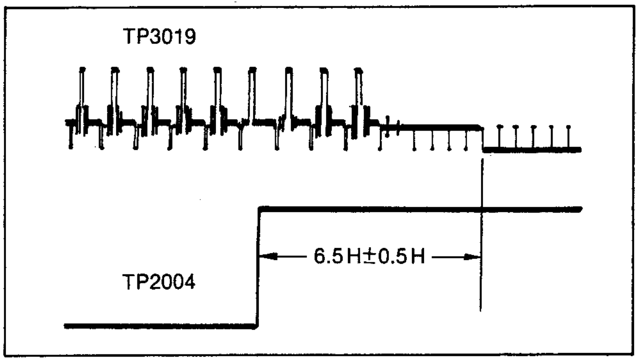


Figure E3

7. Change the triggering slope of the scope from "+" to "−" side, and adjust the PG2 (R2061) so that the difference between the rising and falling edges are less than 10μsec.

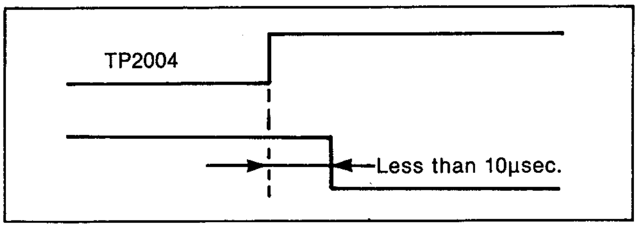


Figure E4

3-2. Tracking Fix Adjustment

Test Points: TP2001, TP2004
Adjustment: R2064 (TRACKING FIX)

1. Set the TRACKING VR on the front panel to the center detent position.
2. Connect the scope CH1 to TP2004 and CH2 to TP2001.
3. Playback the 2nd portion (Monoscope) of the alignment tape, VFM8180HMD.
4. Adjust the TRACKING FIX (R2064) so that the "T" period becomes 0.4 ± 0.1 msec.

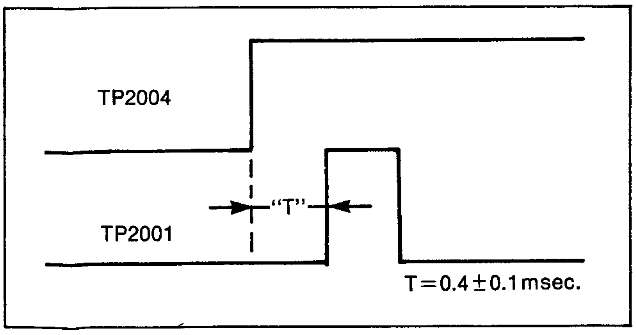


Figure E5

3-3. HD Audio Head Switching Shifter Adjustment

Test Points: TP2401, TP2402
Adjustment: R2402 (HD AUDIO HEAD SW)

1. Set the AUDIO MONITOR SW to HD/AUTO position.
2. Connect the scope CH1 to TP2401 and CH2 to TP2402.
3. Playback the 2nd portion (Monoscope, FM Audio 1kHz) of the alignment tape.
4. Adjust the HD AUDIO HEAD SW (R2402) so that the "T" period becomes $6.64^{+0}_{-0.05}$ msec.

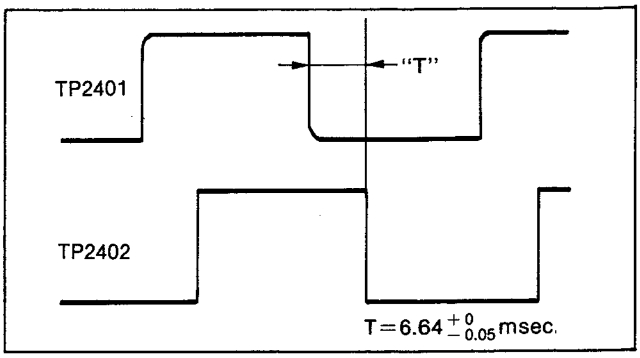


Figure E6

4. LUMINANCE & CHROMINANCE SECTION

Note: Unless otherwise specified, all test points and controls are located on the Luminance & Chrominance C.B.A.

4-1. 4.43MHz OSC Adjustment

Test Point: TP8309
Adjustment: C8343 (4.43MHz OSC)

1. Connect the scope CH1 to TP8309 and connect the frequency counter to CH1 output of scope.
2. Adjust the 4.43MHz OSC (C8343) so that the frequency becomes 4.433619MHz ± 10Hz.

4-2. AFC Adjustment

Test Point: TP8306
Adjustment: R8337 (AFC)

1. Do not supply any video signal and place the unit in the REC · PLAY mode.
2. Connect the frequency counter to TP8306.
3. Adjust the AFC (R8337) so that the counter frequency indicates 15,625 ± 50Hz.
4. Then, supply a colour bar signal in the unit.
5. Confirm that the frequency counter indicates 15,625 ± 5Hz.

4-3. APC Adjustment

Test Points: TP8304, TP8318
Adjustments: C8348 (APC I), C8387 (APC II)

1. Insert a blank tape and place the unit in the PLAY mode.
2. Connect the scope CH1 to TP8304 and connect the frequency counter to CH1 output of scope.
3. Short TP8311 and TP8302 to GND by jumper wires.
4. Adjust the APC I (C8348) so that the frequency becomes 4,435,572 ± 50Hz.

5. Remove the jumper wires.
6. Short TP8312 and TP8313 to GND by jumper wires.
7. Change the scope CH1 from TP8304 to TP8318 (IC8304–8 pin).
8. Adjust the APC II (C8387) so that the frequency becomes 4,433,619± 50 Hz.

4-4. E-E Level I Adjustment

Test Point: TP3019
Adjustment: R3005 (E-E LEVEL I)

1. Supply a colour bar signal, and place the unit in the STOP mode.
2. Set the AGC ON/OFF Switch to "ON".
3. Connect the scope to TP3019.
4. Adjust the E-E LEVEL I (R3005) so that the E-E level "V1" becomes 2.0± 0.05 Vp-p.

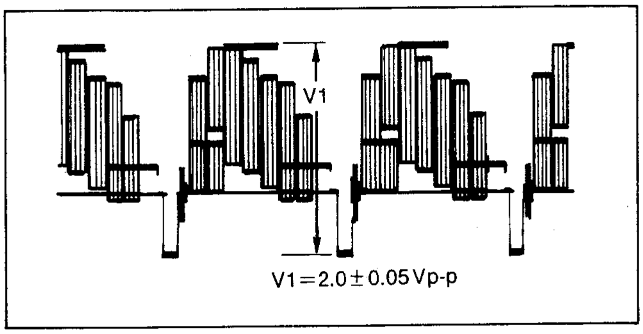


Figure E7

4-5. E-E Level II Adjustment

Test Point: TP3019
Adjustment: R3005 (E-E LEVEL II)

1. Confirm that a colour bar signal level is 1.0± 0.03 Vp-p at 75Ω terminated, and supply it to the unit.
2. Place the unit in the STOP mode.
3. Set the AGC ON/OFF Switch to in the unit "OFF".
4. Connect the scope to TP3019.
5. Adjust the E-E LEVEL II (R3506) so that the E-E level "V2" becomes 2.0 ± 0.05 Vp-p.
6. Set the AGC ON/OFF Switch to "ON" after the adjustment.

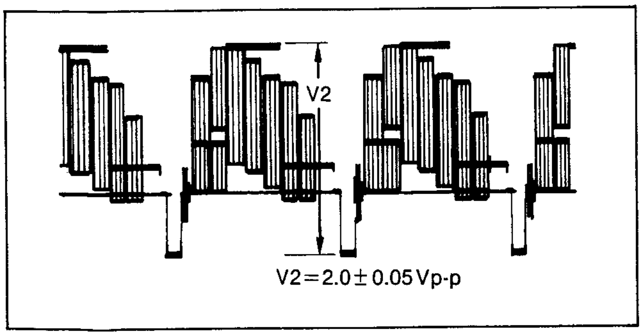


Figure E8

4-6. Sync Tip & Deviation Adjustment

Test Point: TP3003
Adjustment: R3018 (DEV), C3023 (SYNC TIP)

1. Supply a colour bar signal, and connect a scope to TP3003 with an 1:1 probe.
2. Turn the resistors R3028 and R3039 fully clockwise and resistor R3029 fully counterclockwise.
3. Supply a 3.8 MHz sinewave signal at −40 dB (0.028 Vp-p) to TP3004 through a 0.01μF capacitor. Set the frequency precisely with a frequency counter.
4. Place the unit in the REC · PLAY mode.
5. Adjust the SYNC TIP (C3023) so that the beat on the sync tip portion of the signal becomes minimum.
6. Next reset the oscillator to supply a 4.8 MHz sinewave signal at −40 dB (0.028 Vp-p) to TP3004 through the 0.01μF capacitor. Set the frequency precisely with a frequency counter.
7. Adjust the DEV. (R3018) so that the beat on the white peak portion of the signal becomes minimum.

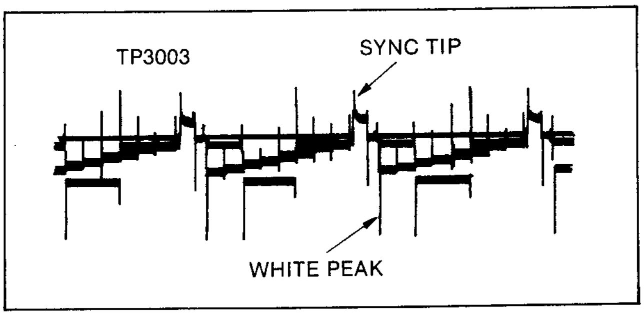


Figure E9

4-7. White Clip & Dark Clip Adjustment

Test Point: TP3003
Adjustments: R3028 (DARK CLIP), R3029 (WHITE CLIP)

1. Supply a colour bar signal, and connect a scope to TP3003 with an 1:1 probe.
2. Place the unit in the REC · PLAY mode.
3. Adjust the DARK CLIP (R3028) so that the dark clip portion becomes 50%±5%.
4. Adjust the WHITE CLIP (R3029) so that the white clip portion becomes 80%±5%.

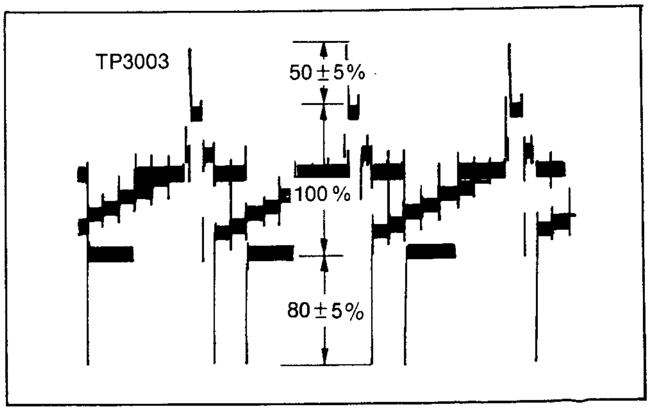


Figure E10

4-8. REC Current Adjustment

Test Points: TP3007 (HOT), TP3008 (GND)
Adjustments: R3039 (REC-Y), R3051 (REC CHROMA)

1. Supply a colour bar signal, and connect the jumper wire between TP3004 and GND.
2. Connect the scope to TP3007 (HOT) and TP3008 (GND).
3. Place the unit in the REC · PLAY mode.
4. Adjust the REC-CHROMA (R3051) so that the chroma level "V1" becomes 30±2mVp-p.

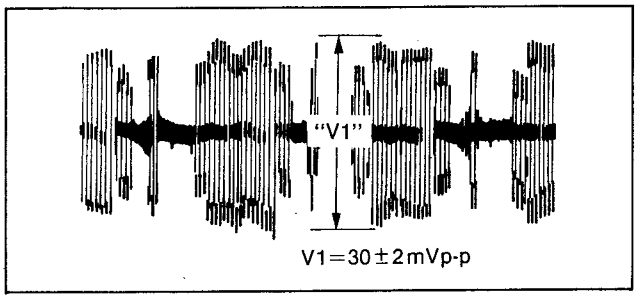


Figure E11

5. Disconnect the jumper wire.
6. Adjust the REC-Y (R3039) so that the Y level "V2" becomes 120±5mVp-p.

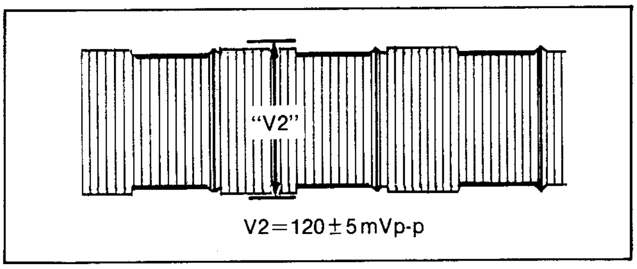


Figure E12

4-9. Head Amp. Peak Frequency Adjustment

Preadjustment Procedures:

(1) Set the sweep generator output as shown below. (Amplitude value of this waveform is terminated with 75Ω.)

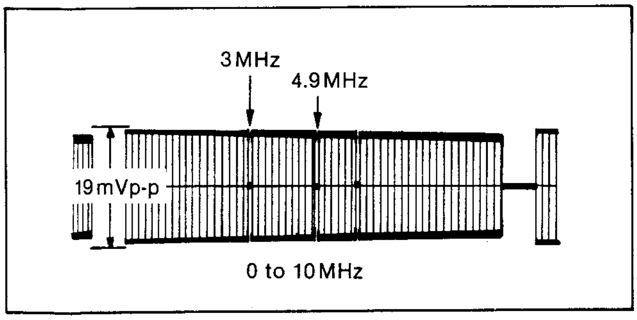


Figure E13

(2) Prepare the empty cassette tape.
Connect circularly the Supply Reel Hub and Takeup Reel Hub of a cassette by the belt as shown below.

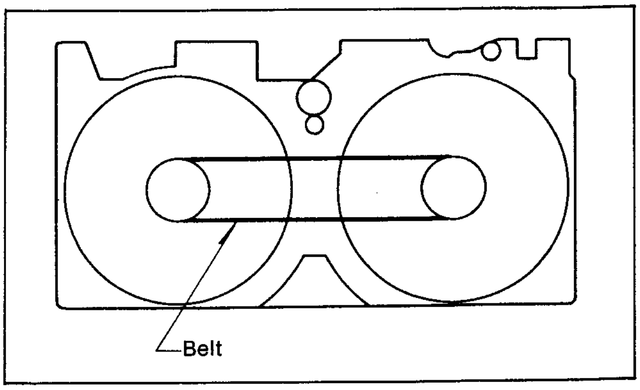


Figure E14

Adjustment Procedures:

Test Point: TP3020
Adjustments: R3063 (Q-L), R3072 (Q-R),
C3047 (PEAK-L), C3048 (PEAK-R)

1. Supply the sweep generator signal to TP3006.
2. Connect the scope to TP3020 and use the trigger out signal of the sweep generator as the external trigger.
3. Insert a empty cassette and place the unit in the PLAY mode.
4. Adjust the Q-L (R3063) and Q-R (R3072) so that both channel peak levels becomes 0.2Vp-p.
5. Next, adjust the PEAK-L (C3047) and PEAK-R (C3048) so that the waveforms becomes as shown below.

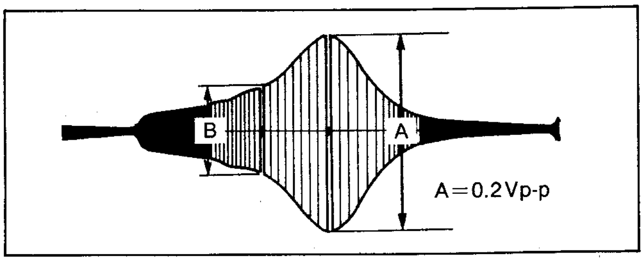


Figure E15

4-10. Head Amp. Frequency Characteristics Adjustment

Preadjustment Procedures:

(1) Set the sweep generator output as shown below. (Amplitude values of this waveform are terminated with 75Ω.)
(2) Supply a sweep signal to the VIDEO INPUT and make a short recording.

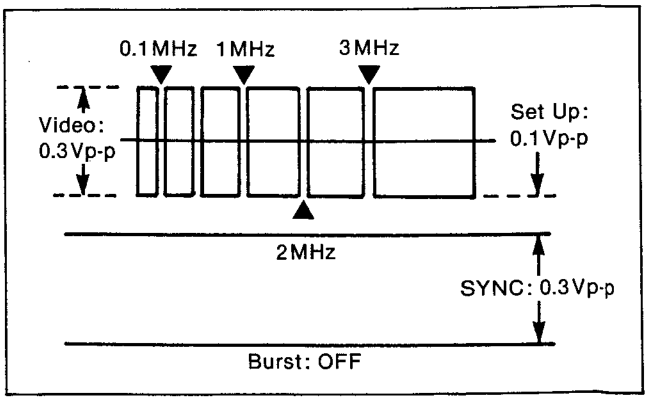


Figure E16

Adjustment Procedures:

Test Points: TP3016, TP3019
Adjustments: R3067 (NOR. MIX), R3069 (NOR. LEV.),
R3063 (Q-L), R3072 (Q-R)

1. Connect the scope to TP3016, and playback the just-recorded portion.
2. Adjust the NOR. MIX (R3067) so that the both channel levels become same level, and adjust the NOR. LEV. (R3069) so that the level becomes 1.1Vp-p±0.1Vp-p.

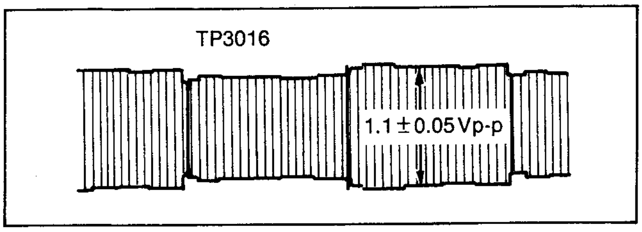


Figure E17

3. Change the probe to TP3019 from TP3016.
4. Adjust the Q-L (R3063) and Q-R (R3072) so that the 0.1MHz:3MHz of L-CH and R-CH waveforms becomes 1:0.7.

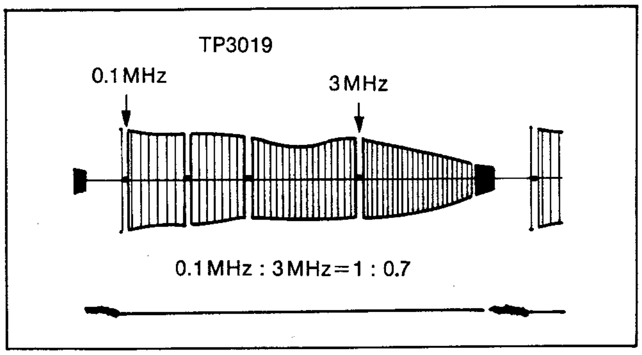


Figure E18

4-11. Dropout Compensator Input Level Adjustment

Test Point: TP3016
Adjustment: R3069 (NOR. LEV.)

1. Supply a colour bar signal, and make a short recording.
2. Playback the just-recorded portion.
3. Connect the scope to TP3016.
4. Adjust the NOR. LEV. (R3069) so that both channel level "A" and "B" become 1.1±0.1Vp-p.
5. If both levels are not same, adjust the R3067.

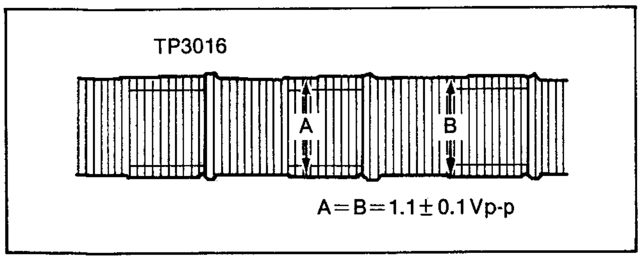


Figure E19

4-12. Limiter Balance Adjustment

Test Point: TP3017
Adjustments: R3122 (BAL 1), R3147 (BAL 2)

1. Supply a sweep generator signal to TP3006, and use the markers at 2MHz, 3.4MHz and 6MHz.
2. Insert a empty cassette and place the unit in the PLAY mode.
3. Connect the scope to TP3016 and adjust the sweep out level so that the level becomes 1.0Vp-p at 4MHz portion.
4. Change the probe to TP3017 from TP3016.
5. Adjust the BAL 1 (R3122) so that the "A" portions of both channel are balanced.
6. Adjust the BAL 2 (R3147) so that the beat of "B" portion becomes minimum.
7. Next, disconnect the sweep generator, and change the probe to TP3019 from TP3017.

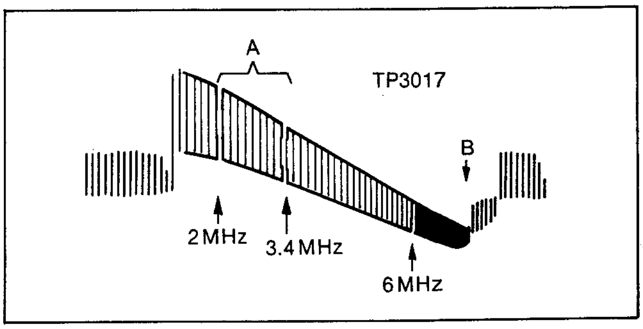


Figure E20

8. Playback the alignment tape.
9. Adjust the BAL 1 (R3122) so that the carrier leak of SYNC TIP becomes minimum.

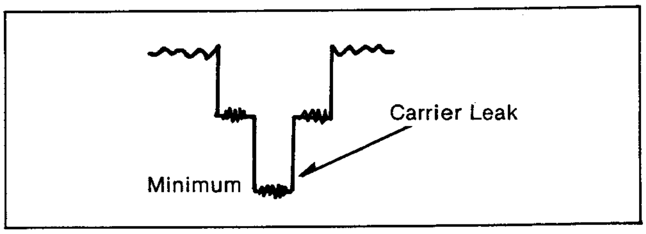


Figure E21

4-13. Comb Filter Combination Adjustment

Test Point: TP8301
Adjustment: R8386 (COMB BAL)

1. Do not supply any video signal, and place the unit in the STOP mode.
2. Set the Signal Select Button on the sweep generator and turn the Sync, Burst, and Set-Up to off.
3. Supply the output of the sweep generator to TP8303, and connect the scope to TP8301.
4. Set the sweep generator output level to 1.2Vp-p and put the maekers on 4.43MHz portions.
5. Confirm that the carrier learkage "A" at 4.43MHz portion is minimum.
6. If "A" is not minimum, adjust the COMB BAL (R8342) so that the level of "A" becomes minimum as shown below.

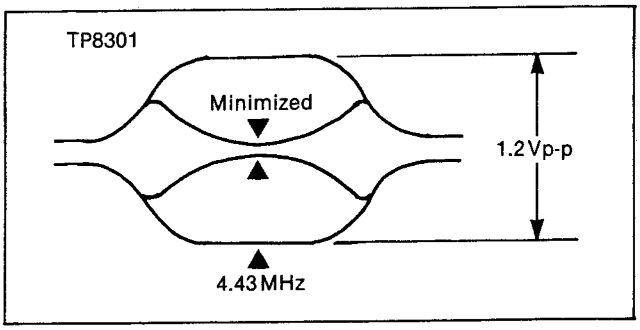


Figure E22

4-14. Playback Level Adjustment

Test Point: TP3019 (VIDEO OUT)
Adjustments: R3186 (P.B. C), R3163 (P.B. LEVEL)

1. Supply a colour bar signal and make a short recording.
2. Connect the scope to TP3019.
3. Playback the just-recorded portion.
4. Adjust the P.B. LEVEL (R3163) so that the output level becomes 2.0±0.05Vp-p.
5. Adjust the P.B. C (R3186) so that the cyan level becomes 1.2±0.06Vp-p.

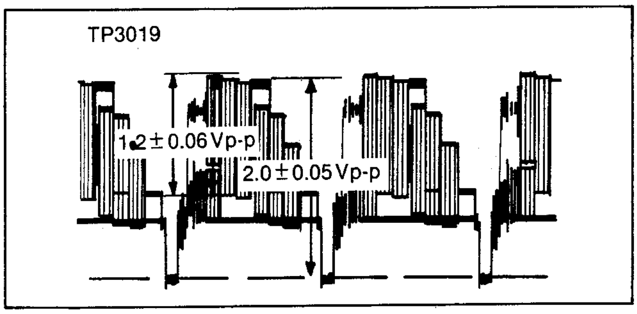


Figure E23

5. NORMAL AUDIO SECTION

Note: 1. Unless otherwise specified, all test points and controls are located on the Normal Audio (I), (II) C.B.A.
2. Unless otherwise specified, set the following switches to the following positions.

SWITCH	POSITION
AUDIO MONITOR SWITCH HD/AUTO — NORMAL	NORMAL
AUDIO MONITOR SWITCH CH1 — MIX — CH2	MIX
AUDIO REC SWITCH HD/NOR. — NORMAL	NORMAL
DOLBY NR SWITCH IN — OUT	OUT

5-1. Normal Audio Playback Frequency Characteristic Adjustment

Test Points: TP4001, TP4002
Adjustments: R4003 (P.B. FREQ. CH1),
R4107 (P.B. FREQ. CH2)

1. Confirm that P.B. CH1 (R4033) and P.B. CH2 (R4110) are set to center position.
2. Playback the 3rd portion (Audio: 400Hz, 1kHz, 5kHz, 8kHz) of alignment tape, VFM8180HMD.
3. Connect the scope to TP4001.
4. Adjust the P.B. FREQ. CH1 (R4030) so that the levels at 400Hz and 5kHz portion become the same level.
5. Change the probe to TP4002 from TP4001.
6. Adjust the P.B. FREQ. CH2 (R4107) so that the levels at 400Hz and 5kHz portion become the same level.

5-2. Normal Audio Playback Gain Adjustment

Test Points: TP4001, TP4002
Adjustments: R4033 (P.B. CH1), R4110 (P.B CH2)

1. Connect the scope to TP4001.
2. Playback the 3rd portion (Audio: 400Hz, 1kHz, 5kHz, 8kHz) of alignment tape.
3. Adjust the P.B. CH1 (R4033) so that the level at 400Hz portion becomes 300mVp-p.
4. Change the scope to TP4002 from TP4001.
5. Adjust the P.B. CH2 (R4110) so that the level at 400Hz portion becomes 310mVp-p.

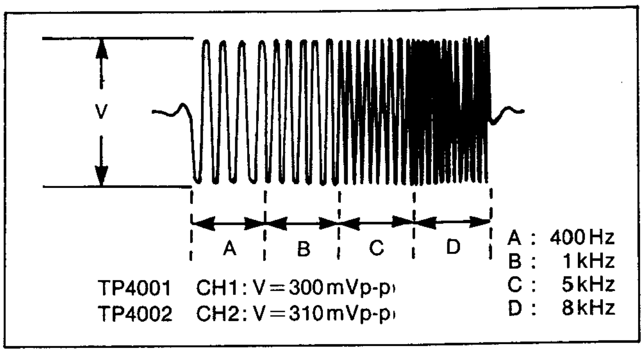


Figure E24

5-3. Normal/HD Audio Pre-Amp. Adjustment

Test Point: AUDIO OUTPUT (NOR./HD)
Adjustments: R4040 (LINE CH1), R4037 (LINE CH2),
R4024 (HD CH1), R4072 (HD CH2)

1. Set the AUDIO INPUT VR on the front panel to the center detent point.
2. Supply a 1kHz sinewave signal at −8dB (0.41Vrms=1.1Vp-p) to the NORMAL AUDIO CH1 INPUT jacks.
3. Connect V.T.V.M.s to both channels of HD/NOR. AUDIO OUTPUT jacks.
4. Adjust the NOR. CH1 (R4040) and NOR. CH2 (R4037) so that the both channels of HD/NOR. AUDIO OUTPUT level become −8dB±0.2dB (0.41Vrms=1.1Vp-p).
5. Change the AUDIO MONITOR SW to "HD/AUTO" position to "NORMAL" position.
6. Adjust the HD CH1 (R4024) and HD CH2 (R4072) so that the both channels of HD/NOR. AUDIO OUTPUT.
7. Change the V.T.V.M.s to the HD AUDIO OUTPUTs from the HD/NOR. AUDIO OUTPUT level become −8dB±0.2dB.
8. Confirm that the HD AUDIO OUTPUT levels are −8dB±1.0dBV (0.41Vrms±0.03Vrms=1.1Vp-p±0.1Vp-p).

5-4. Normal Audio Meter Adjustment

Test Point: AUDIO LEVEL METER
Adjustments: R4359 (CH1 METER), R4360 (CH2 METER)

1. Place the unit in the STOP mode.
2. Set the all of audio level volumes on the front panel to "FIX" position.
3. Supply a sinewave signal at 1kHz, −8dB (0.41Vrms= 1.1Vp-p) to the NORMAL AUDIO CH1 INPUT, and set the Meter Selector to "HD" position.
4. Looking at the AUDIO LEVEL METERS, adjust the CH1 METER (R4359) and CH2 METER (R4360) so that the CH1 and CH2 level meters indicate at 0dB.
5. Change the Meter Selector to "NORMAL" from "HD".
6. Confirm that the CH1 and CH2 level meters indicate at 0±1dBV.

5-5. Normal Audio Bias Current Adjustment

Test Point: A/C HEAD
Adjustments: R4352 (BIAS 1), R4351 (BIAS 2)

1. Do not supply any video signal, and connect the V.T.V.M.s to A/C HEAD as shown below.

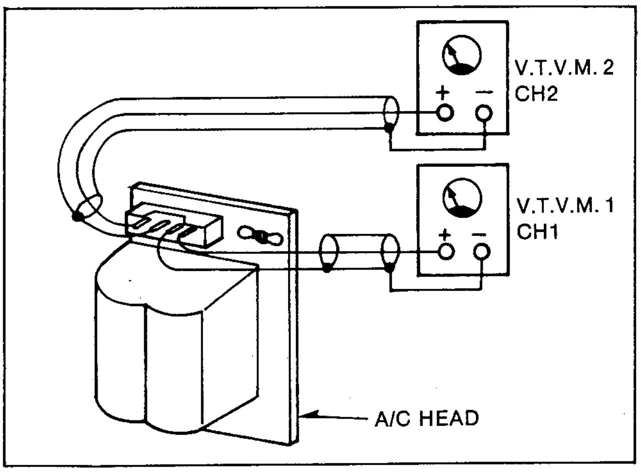


Figure E25

2. Place the unit in the REC · PLAY mode.
3. Adjust the BIAS 1 (R4352) and BIAS 2 (R4351) so that the both V.T.V.M.s indicate 2.2±0.1mVrms.

5-6. Normal Audio REC Current Adjustment

Test Points: TP4003, TP4004, LINE OUT
Adjustments: R4086 (REC CURR. 1), R4160 (REC CURR. 2)

1. Connect the V.T.V.M.s to the deck as shown below.
2. Supply a colour bar signal to the VIDEO INPUT and 1kHz sinewave signal at −8dB (0.41Vrms=1.1Vp-p) to the HD/NOR. AUDIO CH1 INPUT.
3. Place the unit in the REC · PLAY mode.
4. Adjust the REC CURR. 1 (R4086) and REC CURR. 2 (R4150) so that the V.T.V.M. 2 indicates 450mVrms, then this level determine at 0dBV.
5. Playback the just-recorded portion.
6. Confirm that the V.T.V.M. 1 indicates 0dBV.
7. If the V.T.V.M. 2 does not indicate 0dB, repeat steps 3 to 6 until the V.T.V.M. 1 and V.T.V.M. 2 indicate same level.

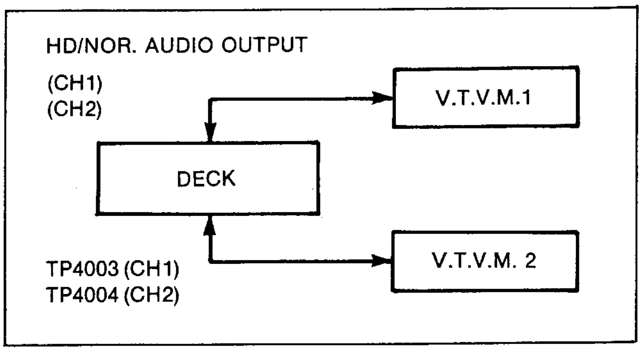


Figure E26

6. HD AUDIO SECTION

Note: 1. Unless otherwise specified, all test points and controls are located on the HD Audio C.B.A.
2. Unless otherwise specified, set the following switches on the front panel to the following positions.

SWITCH	POSITION
AUDIO MONITOR SWITCH HD/AUTO — NORMAL	HD/AUTO
AUDIO MONITOR SWITCH CH1 — MIX — CH2	MIX
AUDIO REC SWITCH HD/NOR. — NORMAL	HD/NOR.

6-1. FM Carrier Frequency Adjustment

Test Points: TP4304, TP4306
Adjustments: R4366 (fL CARRIER), R4522 (fR CARRIER)

1. Place the unit in the STOP mode, and connect the jumper wire between all AUDIO INPUT and GND.
2. Connect the frequency counter to TP4304.
3. Adjust the fL CARRIER (R4366) so that the frequency becomes 1.4MHz±10kHz.

4. Change the probe of frequency counter to TP4306 from TP4304.
5. Adjust the fR CARRIER (R4522) so that the frequency becomes 1.8MHz±10kHz.

6-2. FM Deviation Adjustment

I. Factory and Legal Adjustment

Test Points: TP4304, TP4306
Adjustments: R4369 (fL DEV), R4528 (fR DEV)

1. Place the unit in the STOP mode, and supply sinewave signal at 1kHz, −8dB (0.41Vrms=1.1Vp-p) to the HD AUDIO CH1 INPUT on the rear panel.
2. Connect the spectrum analyzer to TP4304, and set the center frequency of spectrum analyzer at 1.4MHz portion.
3. Adjust fL DEV (R4369) so that the width of "fw" portion becomes 100kHz±5kHz.

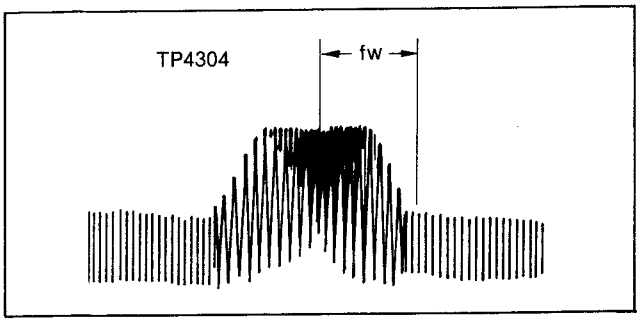


Figure E27

4. Change the probe of spectrum analyzer from TP4304 to TP4306, and set the center frequency of spectrum analyzer to 1.8MHz portion.

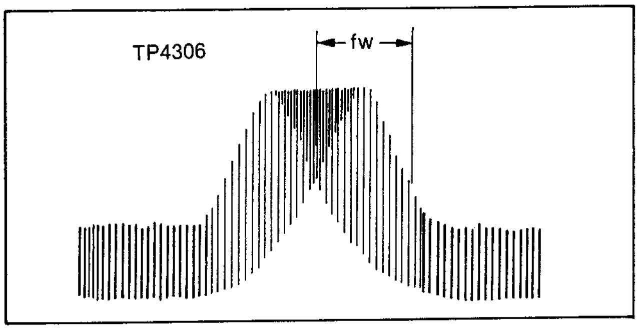


Figure E28

5. Adjust the fL REC CURR. (R4371) so that the amplitude of waveform becomes 220mV±5mV.

II. Field Adjustment

Note: If the FM Deviation Adjustment is required with out the spectrum analyzer, the muster tape must be made by the AG-6810 as the following method.

1. Set the AUDIO INPUT VR on the front panel to the center detent point.
2. Supply a colour bar signal to the VIDEO INPUT and 1kHz sinewave signal at −8dB (0.41Vrms=1.1Vp-p) to the NORMAL AUDIO CH1 INPUT, and make a recording by the AG-6810S.
3. Playback the just-recorded portion, and confirm that the HD/NOR. AUDIO OUTPUTs are −8dB (0.41Vrms=1.1 Vp-p).

Test Point: HD AUDIO OUTPUT
Adjustments: R4369 (fL DEV), CH1
R4528 (fR DEV), CH2

1. Connect the V.T.V.M.s to the HD/NOR. AUDIO OUTPUTs.
2. Playback the above recorded muster tape.
3. Read the indication of V.T.V.M.s at the both channels of HD/NOR. AUDIO OUTPUTs.
4. Next, supply a colour bar signal to the VIDEO INPUT and 1kHz sinewave signal at −8dB (0.41Vrms=1.1Vp-p) to the NORMAL AUDIO CH1 INPUT, and make a short recording.
5. Playback the just-recorded portion.
6. Confirm that the V.T.V.M.s indicate the same levels as the playback levels of the muster recorded tape.
7. If the V.T.V.M.s do not indicate the same. Adjust the fL: CH1 DEV (R4369) and fR: CH2 DEV (R4528) during the REC · PLAY mode.
8. Repeat steps 4 to 7 until the both V.T.V.M.s indicate the same levels as the both output levels of muster recorded tape.

6-3. HD Playback Level Adjustment

Test Point: AUDIO MONITOR OUTPUT
Adjustments: R4459 (CH1 P.B. LEVEL),
R4482 (CH2 P.B. LEVEL)

1. Set the AUDIO INPUT VR on the front panel to the center detent point.
2. Supply a sinewave signal at −8dB (0.41Vrms=1.1Vp-p), 1kHz to the HD AUDIO CH1 INPUT, and make a short recording.
3. Connect the V.T.V.M.s to the both channels of HD/NOR. AUDIO OUTPUT.
4. Playback the just-recorded portion.
5. Adjust the CH1 P.B. LEVEL (R4459) and CH2 P.B. LEVEL (R4482) so that the P.B. level becomes the E-E LEVEL −8dB±0.5dB (0.41Vrms±0.02Vrms=1.1Vp-p±0.05Vp-p).

6-4. HD Audio Recording Current Adjustment

Test Points: TP4309 (HOT), TP4310 (GND)
Adjustments: R4371 (fL REC CURR.),
R4534 (fR REC CURR.)

1. Connect the jumper wire between LINE INPUTs and GND.
2. Turn the control R4371 fully counterclockwise.
3. Place the unit in the REC · PLAY mode, and connect the scope to TP4309 (HOT) and TP4310 (GND).
4. Adjust the fR REC CURR. (R4534) so that the amplitude of waveform becomes 180mV±5mV.

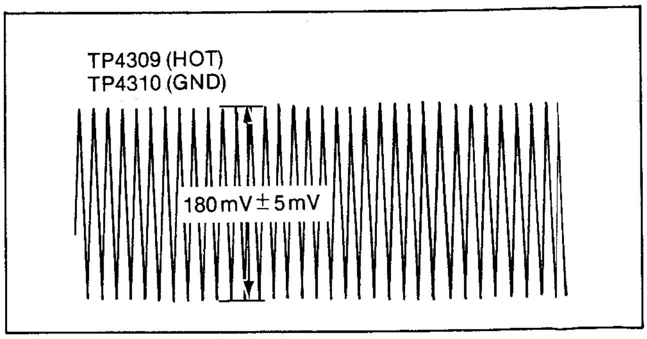


Figure E29

5. Adjust fR DEV (R4528) so that the width of "fw" portion becomes 100kHz±5kHz.

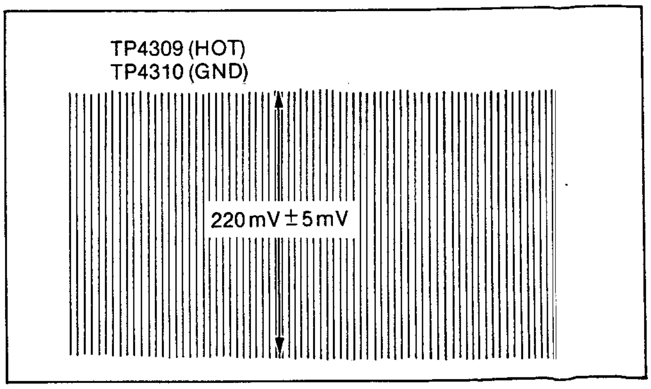


Figure E30

6-5. HD Audio Noise Reduction Timing Current Adjustment

Test Points: TP4312 (GND), TP4313 (HOT)
Adjustment: R4471 (TIMING CURR.)

1. Supply a sinewave signal at −8dB (0.41Vrms=1.1Vp-p) to HD AUDIO INPUTs, and place the unit in the STOP mode.
2. Connect the D.V.M. to TP4312 (GND) and TP4313 (HOT).
3. Adjust the TIMING CURR. (R4471) so that the indication of the D.V.M. becomes 15±0.15mV.

6-7. HD Audio Head Amp. Mix Balance Adjustment

Test Points: TP4314, TP4315
Adjustment: R4404 (MIX BALANCE)

1. Connect the jumper wire between LINE INPUTs and GND.
2. Connect the scope CH1 to TP4314 and CH2 TP4307, and connect the sinewave generator to TP4311.
3. Supply a sinewave signal at 1.4MHz, and adjust the sinewave generator so that the output level at TP4314 becomes 500±100mVp-p.
4. Insert the empty cassette tape, and place the unit in the PLAY mode.
5. Adjust the MIX BALANCE (R4404) so that both channel levels "A" and "B" become the same level.

6. Next, place the unit to make a short recording, and playback the just-recorded portion.
7. Confirm that the ratio of "A" and "B" is to meet spec.
8. Change the probe to TP4315 from TP4314 and confirm that the ratio of "A" and "B" is to meet spec.

Specification: $A/B = 1^{+1.0}_{-0.4}$
(400mVp-p < A, B < 1000mVp-p)

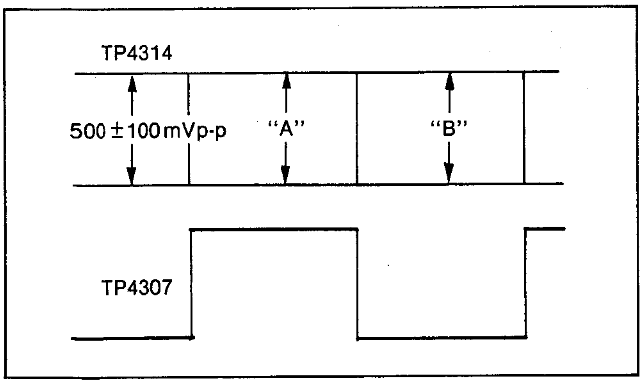


Figure E31

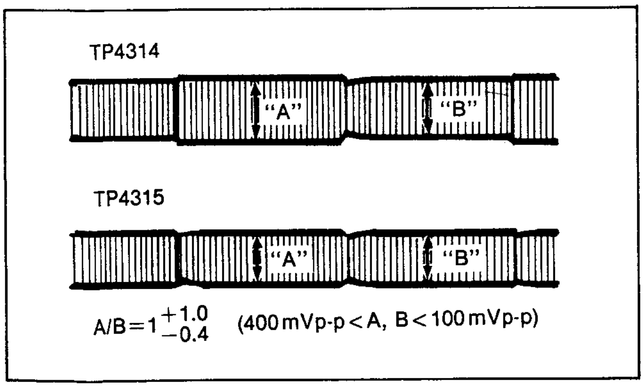
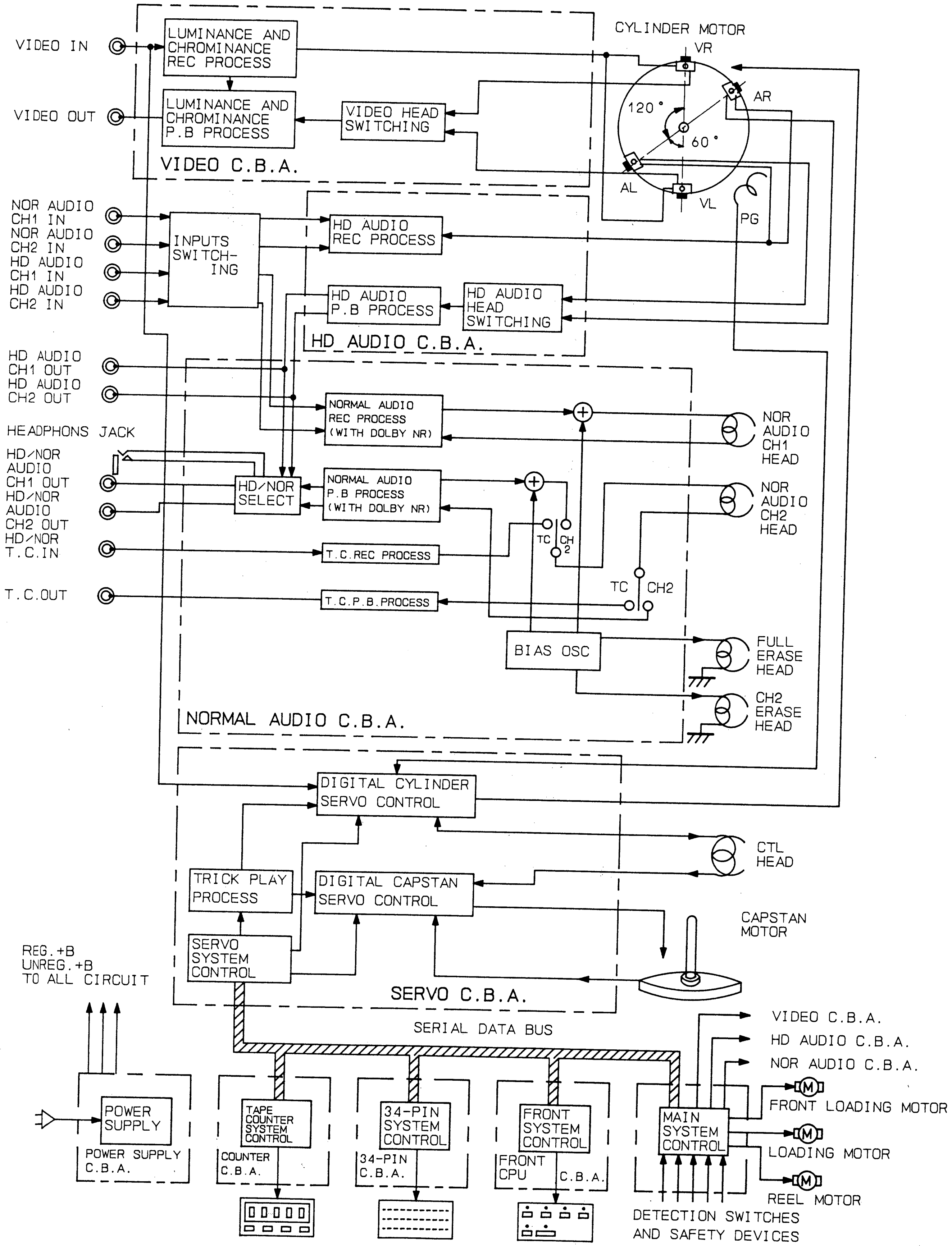
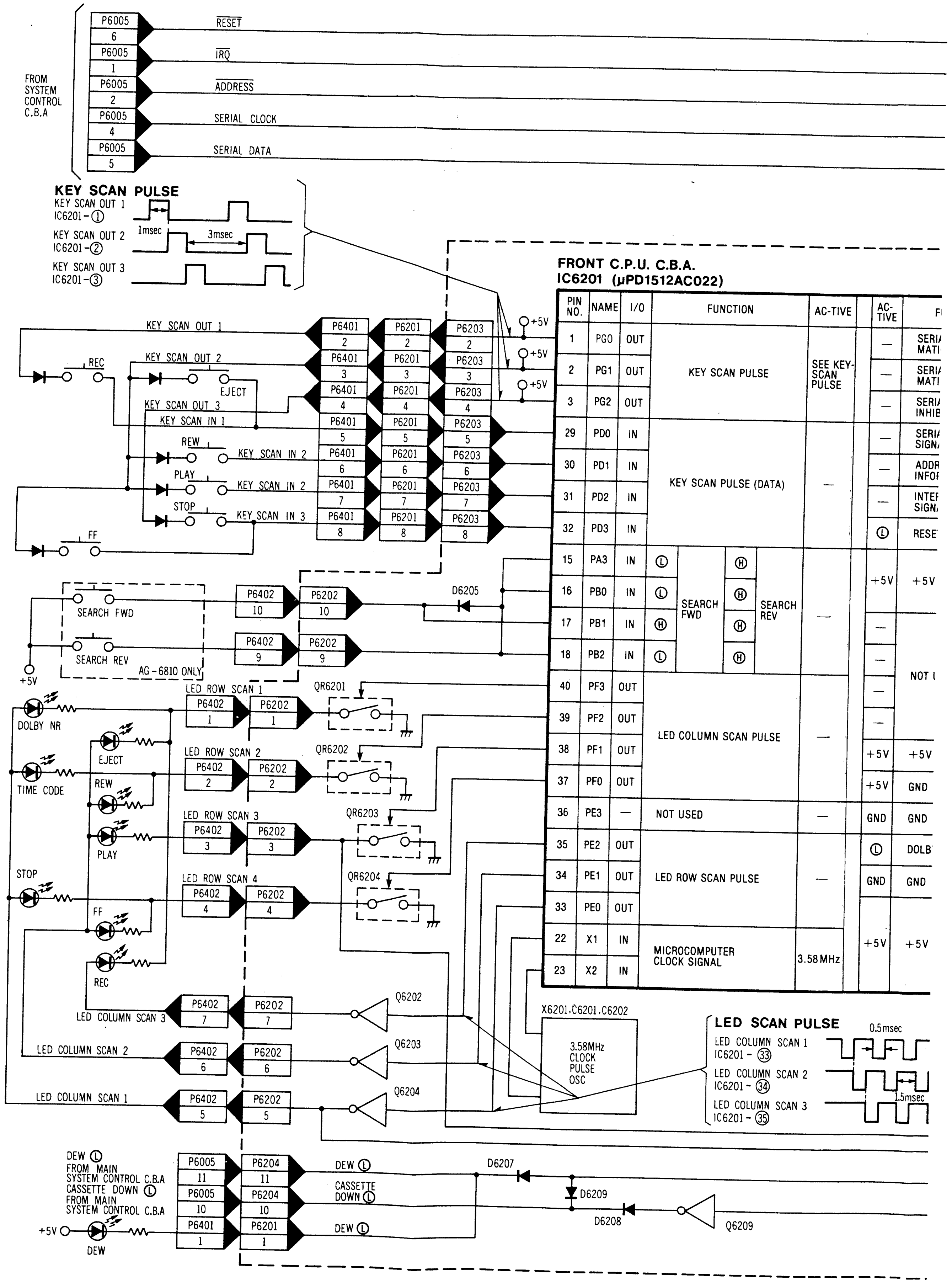


Figure E32

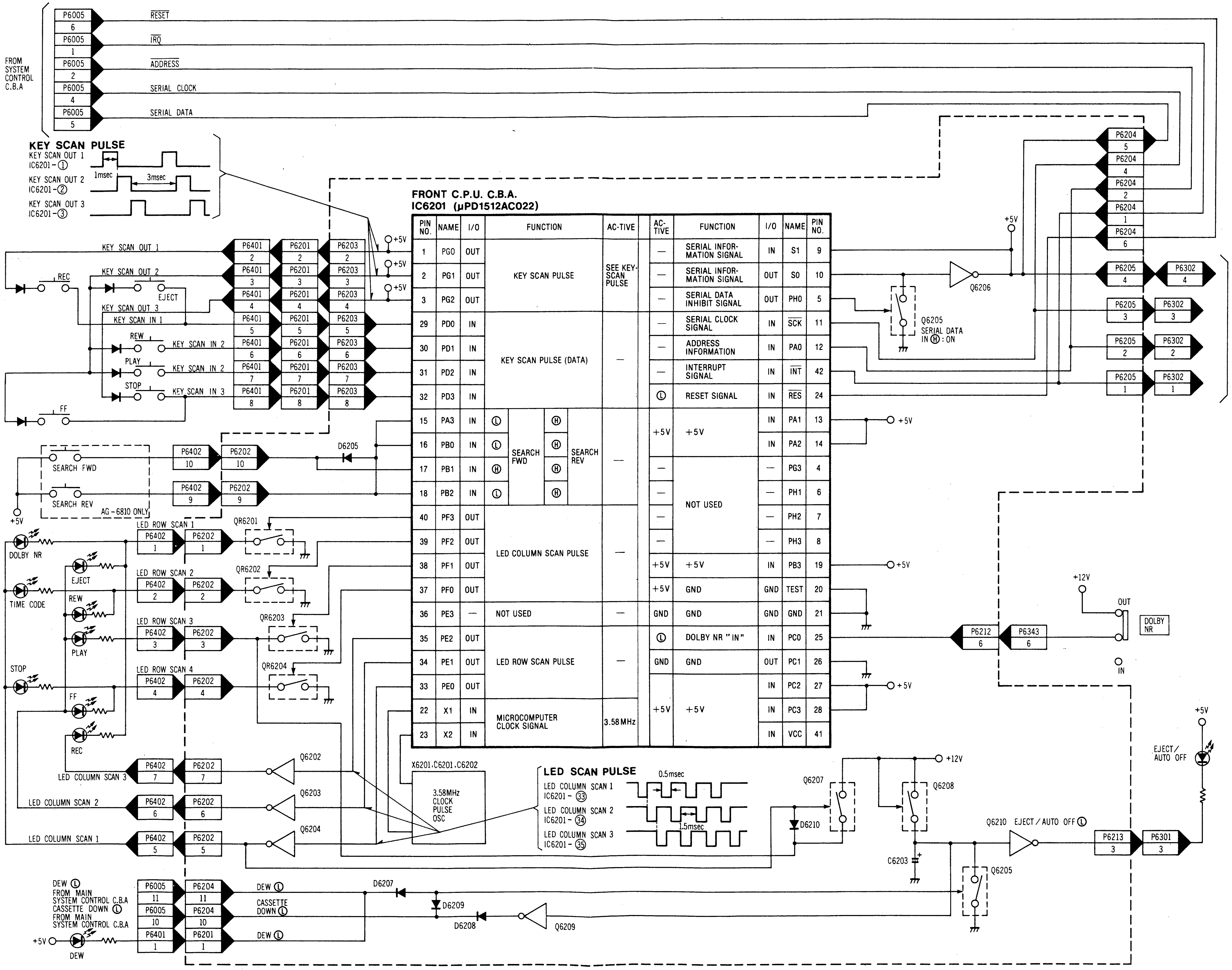
OVERALL BLOCK DIAGRAM


VIDEO IN
VIDEO OUT
LUMINANCE AND CHROMINANCE REC PROCESS
LUMINANCE AND CHROMINANCE P.B PROCESS
VIDEO HEAD SWITCHING
VIDEO C.B.A.
CYLINDER MOTOR
VR
AR
AL
VL
120°
60°
PG
NOR AUDIO CH1 IN
NOR AUDIO CH2 IN
HD AUDIO CH1 IN
HD AUDIO CH2 IN
INPUTS SWITCH-ING
HD AUDIO REC PROCESS
HD AUDIO P.B PROCESS
HD AUDIO HEAD SWITCHING
HD AUDIO C.B.A.
HD AUDIO CH1 OUT
HD AUDIO CH2 OUT
HEADPHONS JACK
HD/NOR AUDIO CH1 OUT
HD/NOR AUDIO CH2 OUT
HD/NOR T.C.IN
T.C.OUT
NORMAL AUDIO REC PROCESS (WITH DOLBY NR)
NORMAL AUDIO P.B PROCESS (WITH DOLBY NR)
HD/NOR SELECT
T.C.REC PROCESS
T.C.P.B.PROCESS
TC
CH2
BIAS OSC
NOR AUDIO CH1 HEAD
NOR AUDIO CH2 HEAD
FULL ERASE HEAD
CH2 ERASE HEAD
NORMAL AUDIO C.B.A.
DIGITAL CYLINDER SERVO CONTROL
TRICK PLAY PROCESS
DIGITAL CAPSTAN SERVO CONTROL
SERVO SYSTEM CONTROL
CTL HEAD
CAPSTAN MOTOR
SERVO C.B.A.
SERIAL DATA BUS
REG.+B
UNREG.+B
TO ALL CIRCUIT
POWER SUPPLY
POWER SUPPLY C.B.A.
TAPE COUNTER SYSTEM CONTROL
COUNTER C.B.A.
34-PIN SYSTEM CONTROL
34-PIN C.B.A.
FRONT SYSTEM CONTROL
FRONT CPU C.B.A.
MAIN SYSTEM CONTROL
VIDEO C.B.A.
HD AUDIO C.B.A.
NOR AUDIO C.B.A.
FRONT LOADING MOTOR
LOADING MOTOR
REEL MOTOR
DETECTION SWITCHES AND SAFETY DEVICES
M

FRONT CPU BLOCK DIAGRAM


FROM SYSTEM CONTROL C.B.A
P6005 6 RESET
P6005 1 IRQ
P6005 2 ADDRESS
P6005 4 SERIAL CLOCK
P6005 5 SERIAL DATA
KEY SCAN PULSE
KEY SCAN OUT 1 IC6201-①
KEY SCAN OUT 2 IC6201-②
KEY SCAN OUT 3 IC6201-③
1msec
3msec
FRONT C.P.U. C.B.A.
IC6201 (μPD1512AC022)
KEY SCAN OUT 1
KEY SCAN OUT 2
KEY SCAN OUT 3
KEY SCAN IN 1
KEY SCAN IN 2
KEY SCAN IN 3
REC
EJECT
REW
PLAY
STOP
FF
P6401
P6201
P6203
+5V
SEARCH FWD
SEARCH REV
AG-6810 ONLY
P6402
P6202
D6205
LED ROW SCAN 1
LED ROW SCAN 2
LED ROW SCAN 3
LED ROW SCAN 4
QR6201
QR6202
QR6203
QR6204
DOLBY NR
TIME CODE
LED COLUMN SCAN 1
LED COLUMN SCAN 2
LED COLUMN SCAN 3
Q6202
Q6203
Q6204
X6201,C6201,C6202
3.58MHz CLOCK PULSE OSC
LED SCAN PULSE
LED COLUMN SCAN 1 IC6201-㉝
LED COLUMN SCAN 2 IC6201-㉞
LED COLUMN SCAN 3 IC6201-㉟
0.5msec
1.5msec
DEW Ⓛ FROM MAIN SYSTEM CONTROL C.B.A
CASSETTE DOWN Ⓛ FROM MAIN SYSTEM CONTROL C.B.A
P6005 11
P6005 10
P6401 1
P6204 11
P6204 10
P6201 1
DEW Ⓛ
CASSETTE DOWN Ⓛ
DEW Ⓛ
D6207
D6209
D6208
Q6209
DEW
PIN NO.
NAME
I/O
FUNCTION
AC-TIVE
AC-TIVE
1 PG0 OUT
2 PG1 OUT
3 PG2 OUT
KEY SCAN PULSE
SEE KEY-SCAN PULSE
SERI/ MATI
SERI/ MATI
SERI/ INHIB
29 PD0 IN
30 PD1 IN
31 PD2 IN
32 PD3 IN
KEY SCAN PULSE (DATA)
SERI/ SIGN/
ADDR INFOR
INTER SIGN/
Ⓛ RESE
15 PA3 IN
16 PB0 IN
17 PB1 IN
18 PB2 IN
SEARCH FWD
SEARCH REV
Ⓛ Ⓗ
+5V +5V
NOT U
40 PF3 OUT
39 PF2 OUT
38 PF1 OUT
37 PF0 OUT
LED COLUMN SCAN PULSE
+5V +5V
+5V GND
36 PE3 —
NOT USED
GND GND
35 PE2 OUT
34 PE1 OUT
33 PE0 OUT
LED ROW SCAN PULSE
Ⓛ DOLB
GND GND
22 X1 IN
23 X2 IN
MICROCOMPUTER CLOCK SIGNAL
3.58MHz
+5V +5V

FRONT CPU BLOCK DIAGRAM

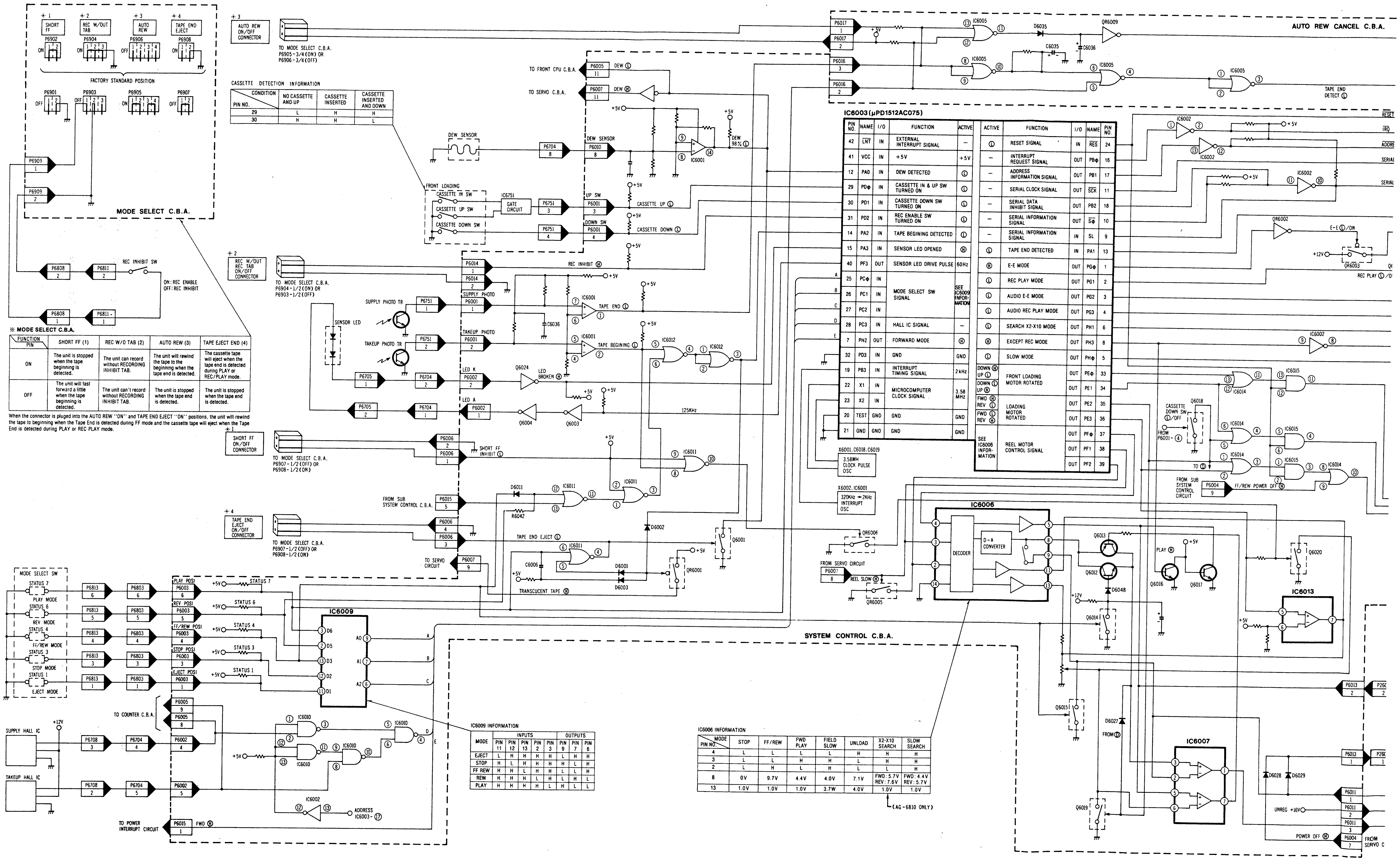

FROM SYSTEM CONTROL C.B.A
P6005 6
P6005 1
P6005 2
P6005 4
P6005 5
RESET
IRQ
ADDRESS
SERIAL CLOCK
SERIAL DATA
KEY SCAN PULSE
KEY SCAN OUT 1 IC6201-①
KEY SCAN OUT 2 IC6201-②
KEY SCAN OUT 3 IC6201-③
1msec
3msec
KEY SCAN OUT 1
KEY SCAN OUT 2
KEY SCAN OUT 3
KEY SCAN IN 1
KEY SCAN IN 2
KEY SCAN IN 2
KEY SCAN IN 3
REC
EJECT
REW
PLAY
STOP
FF
P6401
P6201
P6203
+5V
SEARCH FWD
SEARCH REV
AG-6810 ONLY
P6402 10
P6202 10
P6402 9
P6202 9
D6205
+5V
LED ROW SCAN 1
LED ROW SCAN 2
LED ROW SCAN 3
LED ROW SCAN 4
QR6201
QR6202
QR6203
QR6204
DOLBY NR
EJECT
TIME CODE
REW
PLAY
STOP
FF
REC
LED COLUMN SCAN 3
LED COLUMN SCAN 2
LED COLUMN SCAN 1
Q6202
Q6203
Q6204
FRONT C.P.U. C.B.A.
IC6201 (μPD1512AC022)
X6201.C6201.C6202
3.58MHz CLOCK PULSE OSC
LED SCAN PULSE
LED COLUMN SCAN 1 IC6201-㉝
LED COLUMN SCAN 2 IC6201-㉞
LED COLUMN SCAN 3 IC6201-㉟
0.5msec
1.5msec
DEW Ⓛ FROM MAIN SYSTEM CONTROL C.B.A
CASSETTE DOWN Ⓛ FROM MAIN SYSTEM CONTROL C.B.A
P6005 11
P6005 10
P6401 1
P6204 11
P6204 10
P6201 1
DEW Ⓛ
CASSETTE DOWN Ⓛ
DEW Ⓛ
+5V
DEW
D6207
D6209
D6208
Q6209
P6204 5
P6204 4
P6204 2
P6204 1
P6204 6
+5V
Q6206
Q6205
SERIAL DATA IN Ⓗ: ON
P6205 4
P6205 3
P6205 2
P6205 1
P6302 4
P6302 3
P6302 2
P6302 1
TO COUNTOR C.B.A
+5V
+5V
+5V
+12V
OUT
IN
DOLBY NR
P6212 6
P6343 6
+12V
Q6207
Q6208
D6210
C6203
Q6205
Q6210 EJECT/AUTO OFF Ⓛ
P6213 3
P6301 3
+5V
EJECT/AUTO OFF

FRONT C.P.U. C.B.A.
IC6201 (μPD1512AC022)

PIN NO.	NAME	I/O	FUNCTION				AC-TIVE	AC-TIVE	FUNCTION	I/O	NAME	PIN NO.
1	PG0	OUT	KEY SCAN PULSE				SEE KEY-SCAN PULSE	—	SERIAL INFORMATION SIGNAL	IN	S1	9
2	PG1	OUT						—	SERIAL INFORMATION SIGNAL	OUT	S0	10
3	PG2	OUT						—	SERIAL DATA INHIBIT SIGNAL	OUT	PH0	5
29	PD0	IN	KEY SCAN PULSE (DATA)				—	—	SERIAL CLOCK SIGNAL	IN	$\overline{\mathrm{SCK}}$	11
30	PD1	IN						—	ADDRESS INFORMATION	IN	PA0	12
31	PD2	IN						—	INTERRUPT SIGNAL	IN	$\overline{\mathrm{INT}}$	42
32	PD3	IN						Ⓛ	RESET SIGNAL	IN	$\overline{\mathrm{RES}}$	24
15	PA3	IN	Ⓛ	SEARCH FWD	Ⓗ	SEARCH REV	—	+5V	+5V	IN	PA1	13
16	PB0	IN	Ⓛ		Ⓗ					IN	PA2	14
17	PB1	IN	Ⓗ		Ⓗ			—	NOT USED	—	PG3	4
18	PB2	IN	Ⓛ		Ⓗ			—		—	PH1	6
40	PF3	OUT	LED COLUMN SCAN PULSE				—	—		—	PH2	7
39	PF2	OUT						—		—	PH3	8
38	PF1	OUT						+5V	+5V	IN	PB3	19
37	PF0	OUT						+5V	GND	GND	TEST	20
36	PE3	—	NOT USED				—	GND	GND	GND	GND	21
35	PE2	OUT	LED ROW SCAN PULSE				—	Ⓛ	DOLBY NR "IN"	IN	PC0	25
34	PE1	OUT						GND	GND	OUT	PC1	26
33	PE0	OUT						+5V	+5V	IN	PC2	27
22	X1	IN	MICROCOMPUTER CLOCK SIGNAL				3.58MHz			IN	PC3	28
23	X2	IN								IN	VCC	41

.A.
C.B.A.
C.B.A.
DING MOTOR
OTOR
R

SYSTEM CONTROL BLOCK DIAGRAM


MODE SELECT C.B.A.
FACTORY STANDARD POSITION
SHORT FF
REC W/OUT TAB
AUTO REW
TAPE END EJECT
P6902
P6904
P6906
P6908
P6901
P6903
P6905
P6907
P6909
AUTO REW ON/OFF CONNECTOR
TO MODE SELECT C.B.A. P6905-3/4(ON) OR P6906-3/4(OFF)
REC INHIBIT SW
ON: REC ENABLE
OFF: REC INHIBIT
P6808
P6811
REC W/OUT REC TAB ON/OFF CONNECTOR
TO MODE SELECT C.B.A. P6904-1/2(ON) OR P6903-1/2(OFF)
SHORT FF ON/OFF CONNECTOR
TO MODE SELECT C.B.A. P6907-1/2(OFF) OR P6908-1/2(ON)
TAPE END EJECT ON/OFF CONNECTOR
TO MODE SELECT C.B.A. P6907-1/2(OFF) OR P6908-1/2(ON)
TO FRONT CPU C.B.A.
TO SERVO C.B.A.
DEW SENSOR
FRONT LOADING
CASSETTE IN SW
CASSETTE UP SW
CASSETTE DOWN SW
IC6751 GATE CIRCUIT
CASSETTE UP Ⓛ
CASSETTE DOWN Ⓛ
DEW 98%
REC INHIBIT Ⓗ
SUPPLY PHOTO TR
TAKEUP PHOTO TR
SENSOR LED
TAPE END Ⓛ
TAPE BEGINING Ⓛ
LED BROKEN Ⓗ
125KHz
SHORT FF INHIBIT Ⓛ
FROM SUB SYSTEM CONTROL C.B.A.
TAPE END EJECT Ⓛ
TO SERVO CIRCUIT
TRANSCUCENT TAPE Ⓗ
MODE SELECT SW
PLAY MODE
REV MODE
FF/REW MODE
STOP MODE
EJECT MODE
STATUS 7
STATUS 6
STATUS 4
STATUS 3
STATUS 1
IC6009
TO COUNTER C.B.A.
SUPPLY HALL IC
TAKEUP HALL IC
TO POWER INTERRUPT CIRCUIT
FWD Ⓗ
ADDRESS IC6003-⑰
AUTO REW CANCEL C.B.A.
TAPE END DETECT Ⓛ
X6001, C6018, C6019
3.58MH CLOCK PULSE OSC
X6002, IC6001
320KHz → 2KHz INTERRUPT OSC
IC6006
DECODER
D-A CONVERTER
FROM SERVO CIRCUIT
REEL SLOW Ⓗ
SYSTEM CONTROL C.B.A.
E-E Ⓛ/ON
REC PLAY Ⓛ/O
CASSETTE DOWN SW Ⓛ/OFF
FROM P6001-④
FROM SUB SYSTEM CONTROL CIRCUIT
FF/REW POWER OFF Ⓗ
PLAY Ⓗ
IC6013
IC6007
UNREG +16V
POWER OFF Ⓗ
FROM SERVO C
(AG-6810 ONLY)

CASSETTE DETECTION INFORMATION

CONDITION / PIN NO.	NO CASSETTE AND UP	CASSETTE INSERTED	CASSETTE INSERTED AND DOWN
29	L	H	H
30	H	H	L

※ MODE SELECT C.B.A.

FUNCTION / PIN	SHORT FF (1)	REC W/O TAB (2)	AUTO REW (3)	TAPE EJECT END (4)
ON	The unit is stopped when the tape beginning is detected.	The unit can record without RECORDING INHIBIT TAB.	The unit will rewind the tape to the beginning when the tape end is detected.	The cassette tape will eject when the tape end is detected during PLAY or REC/PLAY mode.
OFF	The unit will fast forward a little when the tape beginning is detected.	The unit can't record without RECORDING INHIBIT TAB.	The unit is stopped when the tape end is detected.	The unit is stopped when the tape end is detected.

When the connector is pluged into the AUTO REW "ON" and TAPE END EJECT "ON" positions, the unit will rewind the tape to beginning when the Tape End is detected during FF mode and the cassette tape will eject when the Tape End is detected during PLAY or REC PLAY mode.

IC6003(μPD1512AC075)

PIN NO.	NAME	I/O	FUNCTION	ACTIVE
42	$\overline{\text{LNT}}$	IN	EXTERNAL INTERRUPT SIGNAL	–
41	VCC	IN	+5V	+5V
12	PA0	IN	DEW DETECTED	Ⓛ
29	PDφ	IN	CASSETTE IN & UP SW TURNED ON	Ⓛ
30	PD1	IN	CASSETTE DOWN SW TURNED ON	Ⓛ
31	PD2	IN	REC ENABLE SW TURNED ON	Ⓛ
14	PA2	IN	TAPE BEGINING DETECTED	Ⓛ
15	PA3	IN	SENSOR LED OPENED	Ⓗ
40	PF3	OUT	SENSOR LED DRIVE PULSE	60Hz
25	PCφ	IN	MODE SELECT SW SIGNAL	SEE IC6009 INFORMATION
26	PC1	IN		
27	PC2	IN		
28	PC3	IN	HALL IC SIGNAL	–
7	PH2	OUT	FORWARD MODE	Ⓗ
32	PD3	IN	GND	GND
19	PB3	IN	INTERRUPT TIMING SIGNAL	2kHz
22	X1	IN	MICROCOMPUTER CLOCK SIGNAL	3.58 MHz
23	X2	IN		
20	TEST	GND	GND	GND
21	GND	GND	GND	GND

ACTIVE	FUNCTION	I/O	NAME	PIN NO.
Ⓛ	RESET SIGNAL	IN	$\overline{\text{RES}}$	24
–	INTERRUPT REQUEST SIGNAL	OUT	PBφ	16
–	ADDRESS INFORMATION SIGNAL	OUT	PB1	17
–	SERIAL CLOCK SIGNAL	OUT	$\overline{\text{SCK}}$	11
–	SERIAL DATA INHIBIT SIGNAL	OUT	PB2	18
–	SERIAL INFORMATION SIGNAL	OUT	$\overline{\text{S}\phi}$	10
–	SERIAL INFORMATION SIGNAL	IN	SL	9
Ⓛ	TAPE END DETECTED	IN	PA1	13
Ⓗ	E-E MODE	OUT	PGφ	1
Ⓛ	REC PLAY MODE	OUT	PG1	2
Ⓛ	AUDIO E-E MODE	OUT	PG2	3
Ⓛ	AUDIO REC PLAY MODE	OUT	PG3	4
Ⓛ	SEARCH X2-X10 MODE	OUT	PH1	6
Ⓗ	EXCEPT REC MODE	OUT	PH3	8
Ⓛ	SLOW MODE	OUT	PHφ	5
DOWN Ⓗ UP Ⓛ	FRONT LOADING MOTOR ROTATED	OUT	PEφ	33
DOWN Ⓛ UP Ⓗ		OUT	PE1	34
FWD Ⓗ REV Ⓛ	LOADING MOTOR ROTATED	OUT	PE2	35
FWD Ⓛ REV Ⓗ		OUT	PE3	36
SEE IC6006 INFORMATION	REEL MOTOR CONTROL SIGNAL	OUT	PFφ	37
		OUT	PF1	38
		OUT	PF2	39

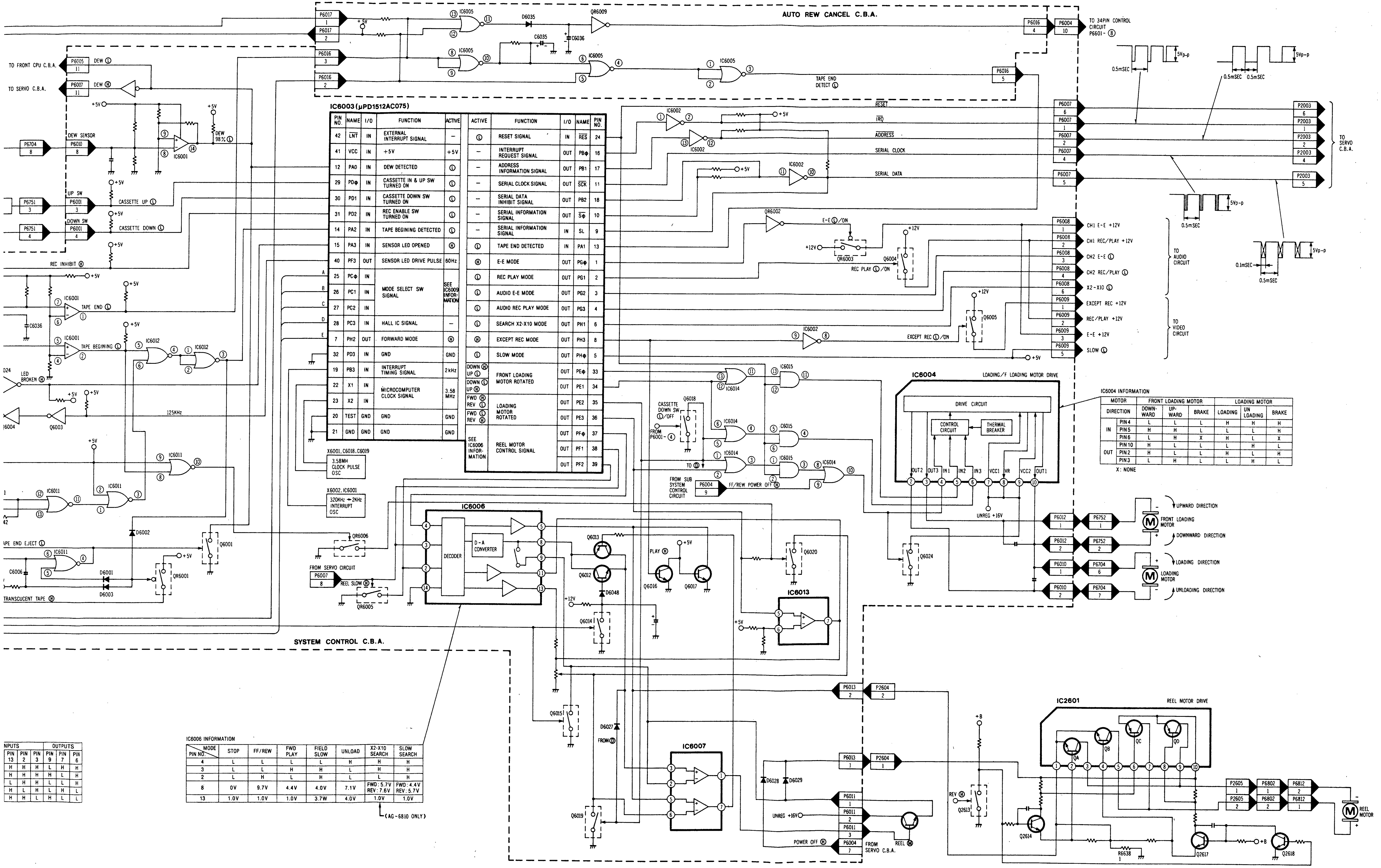
IC6009 INFORMATION

MODE	INPUTS					OUTPUTS		
	PIN 11	PIN 12	PIN 13	PIN 2	PIN 3	PIN 9	PIN 7	PIN 6
EJECT	L	H	H	H	H	L	H	H
STOP	H	L	H	H	H	H	L	H
FF REW	H	H	L	H	H	L	L	H
REW	H	H	H	L	H	L	H	L
PLAY	H	H	H	H	L	H	L	L

IC6006 INFORMATION

MODE / PIN NO.	STOP	FF/REW	FWD PLAY	FIELD SLOW	UNLOAD	X2-X10 SEARCH	SLOW SEARCH
4	L	L	L	L	H	H	H
3	L	L	H	H	L	H	H
2	L	H	L	H	L	L	H
8	0V	9.7V	4.4V	4.0V	7.1V	FWD: 5.7V REV: 7.6V	FWD: 4.4V REV: 5.7V
13	1.0V	1.0V	1.0V	3.7W	4.0V	1.0V	1.0V

(AG-6810 ONLY)


AUTO REW CANCEL C.B.A.
SYSTEM CONTROL C.B.A.
TO FRONT CPU C.B.A.
TO SERVO C.B.A.
DEW SENSOR
DEW 98% Ⓛ
UP SW
DOWN SW
CASSETTE UP Ⓛ
CASSETTE DOWN Ⓛ
REC INHIBIT Ⓗ
TAPE END Ⓛ
TAPE BEGINING Ⓛ
LED BROKEN Ⓗ
125KHz
TAPE END EJECT Ⓛ
TRANSCUCENT TAPE Ⓗ
TAPE END DETECT Ⓛ
TO 34PIN CONTROL CIRCUIT P6601-⑧
RESET
IRQ
ADDRESS
SERIAL CLOCK
SERIAL DATA
TO SERVO C.B.A.
5Vp-p
0.5mSEC
0.1mSEC
E-E Ⓛ/ON
REC PLAY Ⓛ/ON
EXCEPT REC Ⓛ/ON
CH1 E-E +12V
CH1 REC/PLAY +12V
CH2 E-E Ⓛ
CH2 REC/PLAY Ⓛ
X2-X10 Ⓛ
TO AUDIO CIRCUIT
EXCEPT REC +12V
REC/PLAY +12V
E-E +12V
SLOW Ⓛ
TO VIDEO CIRCUIT
IC6004
LOADING/F LOADING MOTOR DRIVE
DRIVE CIRCUIT
CONTROL CIRCUIT
THERMAL BREAKER
UNREG +16V
FRONT LOADING MOTOR
UPWARD DIRECTION
DOWNWARD DIRECTION
LOADING MOTOR
LOADING DIRECTION
UNLOADING DIRECTION
CASSETTE DOWN SW Ⓛ/OFF
FROM P6001-④
TO Ⓓ
FROM SUB SYSTEM CONTROL CIRCUIT
FF/REW POWER OFF Ⓗ
IC6006
DECODER
D-A CONVERTER
FROM SERVO CIRCUIT
REEL SLOW Ⓗ
PLAY Ⓗ
IC6013
IC6007
FROM Ⓓ
UNREG +16V
POWER OFF Ⓗ
FROM SERVO C.B.A.
REEL Ⓜ
IC2601
REEL MOTOR DRIVE
REV Ⓗ
REEL MOTOR
X6001, C6018, C6019
3.58MH CLOCK PULSE OSC
X6002, IC6001
320KHz → 2KHz INTERRUPT OSC

IC6003 (μPD1512AC075)

PIN NO.	NAME	I/O	FUNCTION	ACTIVE	ACTIVE	FUNCTION	I/O	NAME	PIN NO.
42	$\overline{\text{LNT}}$	IN	EXTERNAL INTERRUPT SIGNAL	–	Ⓛ	RESET SIGNAL	IN	$\overline{\text{RES}}$	24
41	VCC	IN	+5V	+5V	–	INTERRUPT REQUEST SIGNAL	OUT	PBΦ	16
12	PA0	IN	DEW DETECTED	Ⓛ	–	ADDRESS INFORMATION SIGNAL	OUT	PB1	17
29	PDΦ	IN	CASSETTE IN & UP SW TURNED ON	Ⓛ	–	SERIAL CLOCK SIGNAL	OUT	$\overline{\text{SCK}}$	11
30	PD1	IN	CASSETTE DOWN SW TURNED ON	Ⓛ	–	SERIAL DATA INHIBIT SIGNAL	OUT	PB2	18
31	PD2	IN	REC ENABLE SW TURNED ON	Ⓛ	–	SERIAL INFORMATION SIGNAL	OUT	$\overline{\text{S}\Phi}$	10
14	PA2	IN	TAPE BEGINING DETECTED	Ⓛ	–	SERIAL INFORMATION SIGNAL	IN	SL	9
15	PA3	IN	SENSOR LED OPENED	Ⓗ	Ⓛ	TAPE END DETECTED	IN	PA1	13
40	PF3	OUT	SENSOR LED DRIVE PULSE	60Hz	Ⓗ	E-E MODE	OUT	PGΦ	1
25	PCΦ	IN	MODE SELECT SW SIGNAL	SEE IC6009 INFORMATION	Ⓛ	REC PLAY MODE	OUT	PG1	2
26	PC1	IN			Ⓛ	AUDIO E-E MODE	OUT	PG2	3
27	PC2	IN			Ⓛ	AUDIO REC PLAY MODE	OUT	PG3	4
28	PC3	IN	HALL IC SIGNAL	–	Ⓛ	SEARCH X2-X10 MODE	OUT	PH1	6
7	PH2	OUT	FORWARD MODE	Ⓗ	Ⓗ	EXCEPT REC MODE	OUT	PH3	8
32	PD3	IN	GND	GND	Ⓛ	SLOW MODE	OUT	PHΦ	5
19	PB3	IN	INTERRUPT TIMING SIGNAL	2kHz	DOWN Ⓗ UP Ⓛ	FRONT LOADING MOTOR ROTATED	OUT	PEΦ	33
22	X1	IN	MICROCOMPUTER CLOCK SIGNAL	3.58 MHz	DOWN Ⓛ UP Ⓗ		OUT	PE1	34
23	X2	IN			FWD Ⓗ REV Ⓛ	LOADING MOTOR ROTATED	OUT	PE2	35
20	TEST	GND	GND	GND	FWD Ⓛ REV Ⓗ		OUT	PE3	36
21	GND	GND	GND	GND	SEE IC6006 INFORMATION	REEL MOTOR CONTROL SIGNAL	OUT	PFΦ	37
							OUT	PF1	38
							OUT	PF2	39

IC6004 INFORMATION

MOTOR		FRONT LOADING MOTOR			LOADING MOTOR		
DIRECTION		DOWN-WARD	UP-WARD	BRAKE	LOADING	UN LOADING	BRAKE
IN	PIN 4	L	L	L	H	H	H
	PIN 5	H	H	L	L	L	H
	PIN 6	L	H	X	H	L	X
OUT	PIN 10	H	L	L	L	H	L
	PIN 2	H	L	L	H	L	H
	PIN 3	L	H	L	L	H	L

X: NONE

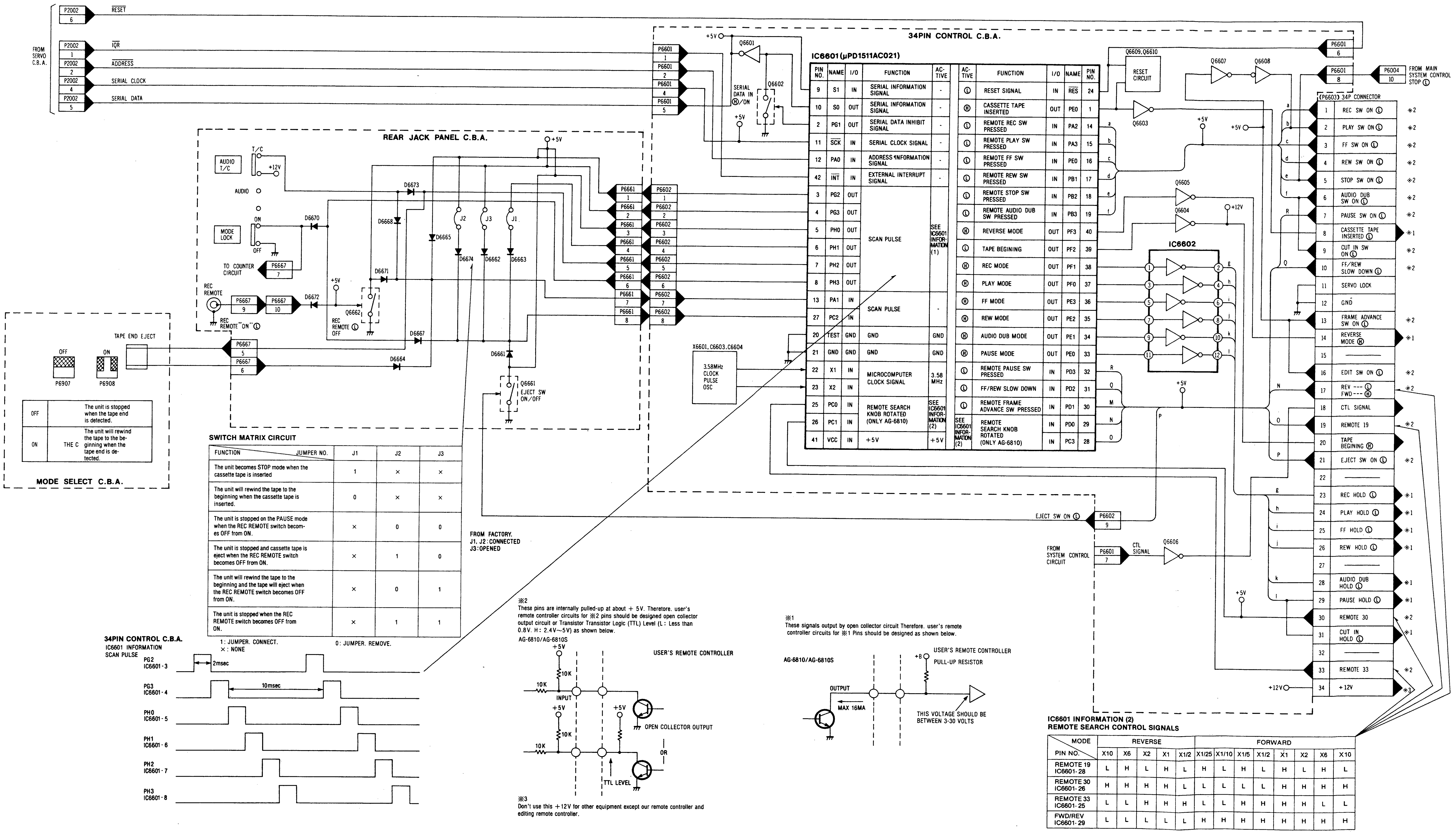
NPUTS			OUTPUTS		
PIN 13	PIN 2	PIN 3	PIN 9	PIN 7	PIN 6
H	H	H	L	H	H
H	H	H	H	L	H
L	H	H	L	L	H
H	L	H	L	H	L
H	H	L	H	L	L

IC6006 INFORMATION

PIN NO. \ MODE	STOP	FF/REW	FWD PLAY	FIELD SLOW	UNLOAD	X2-X10 SEARCH	SLOW SEARCH
4	L	L	L	L	H	H	H
3	L	L	H	H	L	H	H
2	L	H	L	H	L	L	H
8	0V	9.7V	4.4V	4.0V	7.1V	FWD: 5.7V REV: 7.6V	FWD: 4.4V REV: 5.7V
13	1.0V	1.0V	1.0V	3.7W	4.0V	1.0V	1.0V

(AG-6810 ONLY)

34 PIN CONTROL BLOCK DIAGRAM


FROM SERVO C.B.A.
P2002 6 RESET
P2002 1 IQR
P2002 2 ADDRESS
P2002 4 SERIAL CLOCK
P2002 5 SERIAL DATA
34PIN CONTROL C.B.A.
P6601 1
P6601 2
P6601 4
P6601 5
+5V
Q6601
Q6602
SERIAL DATA IN Ⓗ/ON
REAR JACK PANEL C.B.A.
AUDIO T/C
T/C
+12V
AUDIO
MODE LOCK
ON
OFF
TO COUNTER CIRCUIT
P6667 7
REC REMOTE
P6667 9
P6667 10
REC REMOTE "ON" Ⓛ
REC REMOTE Ⓛ OFF
Q6662
D6670
D6671
D6672
D6673
D6668
D6665
D6674
D6662
D6663
D6667
D6664
D6661
J1
J2
J3
Q6661
EJECT SW ON/OFF
P6661 1
P6661 2
P6661 3
P6661 4
P6661 5
P6661 6
P6661 7
P6661 8
P6602 1
P6602 2
P6602 3
P6602 4
P6602 5
P6602 6
P6602 7
P6602 8
TAPE END EJECT
OFF
ON
P6907
P6908
P6667 5
P6667 6
MODE SELECT C.B.A.
X6601, C6603, C6604
3.58MHz CLOCK PULSE OSC
IC6601 (μPD1511AC021)
Q6609, Q6610
RESET CIRCUIT
Q6603
Q6604
Q6605
Q6606
Q6607
Q6608
IC6602
+12V
P6601 6
P6601 8
P6004 10
FROM MAIN SYSTEM CONTROL STOP Ⓛ
(P6603) 34P CONNECTOR
1 REC SW ON Ⓛ ※2
2 PLAY SW ON Ⓛ ※2
3 FF SW ON Ⓛ ※2
4 REW SW ON Ⓛ ※2
5 STOP SW ON Ⓛ ※2
6 AUDIO DUB SW ON Ⓛ ※2
7 PAUSE SW ON Ⓛ ※2
8 CASSETTE TAPE INSERTED Ⓛ ※1
9 CUT IN SW ON Ⓛ ※2
10 FF/REW SLOW DOWN Ⓛ ※2
11 SERVO LOCK
12 GND
13 FRAME ADVANCE SW ON Ⓛ ※2
14 REVERSE MODE Ⓗ ※1
15 ———
16 EDIT SW ON Ⓛ ※2
17 REV --- Ⓛ FWD --- Ⓗ ※2
18 CTL SIGNAL
19 REMOTE 19 ※2
20 TAPE BEGINING Ⓗ
21 EJECT SW ON Ⓛ ※2
22 ———
23 REC HOLD Ⓛ ※1
24 PLAY HOLD Ⓛ ※1
25 FF HOLD Ⓛ ※1
26 REW HOLD Ⓛ ※1
27 ———
28 AUDIO DUB HOLD Ⓛ ※1
29 PAUSE HOLD Ⓛ ※1
30 REMOTE 30 ※2
31 CUT IN HOLD Ⓛ ※1
32 ———
33 REMOTE 33 ※2
34 +12V ※3
EJECT SW ON Ⓛ
P6602 9
FROM SYSTEM CONTROL CIRCUIT
P6601 7
CTL SIGNAL
34PIN CONTROL C.B.A.
IC6601 INFORMATION
SCAN PULSE
PG2 IC6601-3
PG3 IC6601-4
PH0 IC6601-5
PH1 IC6601-6
PH2 IC6601-7
PH3 IC6601-8
2msec
10msec
AG-6810/AG-6810S
USER'S REMOTE CONTROLLER
10K
INPUT
+5V
OPEN COLLECTOR OUTPUT
OR
TTL LEVEL
OUTPUT
MAX 16MA
+B
PULL-UP RESISTOR
THIS VOLTAGE SHOULD BE BETWEEN 3-30 VOLTS

IC6601(μPD1511AC021)

PIN NO.	NAME	I/O	FUNCTION	ACTIVE	ACTIVE	FUNCTION	I/O	NAME	PIN NO.
9	S1	IN	SERIAL INFORMATION SIGNAL	-	Ⓛ	RESET SIGNAL	IN	$\overline{\text{RES}}$	24
10	S0	OUT	SERIAL INFORMATION SIGNAL	-	Ⓗ	CASSETTE TAPE INSERTED	OUT	PE0	1
2	PG1	OUT	SERIAL DATA INHIBIT SIGNAL	-	Ⓛ	REMOTE REC SW PRESSED	IN	PA2	14
11	$\overline{\text{SCK}}$	IN	SERIAL CLOCK SIGNAL	-	Ⓛ	REMOTE PLAY SW PRESSED	IN	PA3	15
12	PA0	IN	ADDRESS INFORMATION SIGNAL	-	Ⓛ	REMOTE FF SW PRESSED	IN	PE0	16
42	$\overline{\text{INT}}$	IN	EXTERNAL INTERRUPT SIGNAL	-	Ⓛ	REMOTE REW SW PRESSED	IN	PB1	17
3	PG2	OUT	SCAN PULSE	SEE IC6601 INFORMATION (1)	Ⓛ	REMOTE STOP SW PRESSED	IN	PB2	18
4	PG3	OUT			Ⓛ	REMOTE AUDIO DUB SW PRESSED	IN	PB3	19
5	PH0	OUT			Ⓗ	REVERSE MODE	OUT	PF3	40
6	PH1	OUT			Ⓛ	TAPE BEGINING	OUT	PF2	39
7	PH2	OUT			Ⓗ	REC MODE	OUT	PF1	38
8	PH3	OUT			Ⓗ	PLAY MODE	OUT	PF0	37
13	PA1	IN	SCAN PULSE	-	Ⓗ	FF MODE	OUT	PE3	36
27	PC2	IN			Ⓗ	REW MODE	OUT	PE2	35
20	TEST	GND	GND	GND	Ⓗ	AUDIO DUB MODE	OUT	PE1	34
21	GND	GND	GND	GND	Ⓗ	PAUSE MODE	OUT	PE0	33
22	X1	IN	MICROCOMPUTER CLOCK SIGNAL	3.58 MHz	Ⓛ	REMOTE PAUSE SW PRESSED	IN	PD3	32
23	X2	IN			Ⓛ	FF/REW SLOW DOWN	IN	PD2	31
25	PC0	IN	REMOTE SEARCH KNOB ROTATED (ONLY AG-6810)	SEE IC6601 INFORMATION (2)	Ⓛ	REMOTE FRAME ADVANCE SW PRESSED	IN	PD1	30
26	PC1	IN			SEE IC6601 INFORMATION (2)	REMOTE SEARCH KNOB ROTATED (ONLY AG-6810)	IN	PD0	29
41	VCC	IN	+5V	+5V			IN	PC3	28

OFF		The unit is stopped when the tape end is detected.
ON	THE C	The unit will rewind the tape to the beginning when the tape end is detected.

MODE SELECT C.B.A.

SWITCH MATRIX CIRCUIT

FUNCTION / JUMPER NO.	J1	J2	J3
The unit becomes STOP mode when the cassette tape is inserted	1	×	×
The unit will rewind the tape to the beginning when the cassette tape is inserted.	0	×	×
The unit is stopped on the PAUSE mode when the REC REMOTE switch becomes OFF from ON.	×	0	0
The unit is stopped and cassette tape is eject when the REC REMOTE switch becomes OFF from ON.	×	1	0
The unit will rewind the tape to the beginning and the tape will eject when the REC REMOTE switch becomes OFF from ON.	×	0	1
The unit is stopped when the REC REMOTE switch becomes OFF from ON.	×	1	1

1 : JUMPER. CONNECT.
× : NONE
0 : JUMPER. REMOVE.

FROM FACTORY.
J1, J2 : CONNECTED
J3 : OPENED

34PIN CONTROL C.B.A.
IC6601 INFORMATION
SCAN PULSE

※2
These pins are internally pulled-up at about + 5V. Theretore. user's remote controller circuits for ※2 pins should be designed open collector output circuit or Transistor Transistor Logic (TTL) Level (L : Less than 0.8V. H : 2.4V~5V) as shown below.

※3
Don't use this +12V for other equipment except our remote controller and editing remote controller.

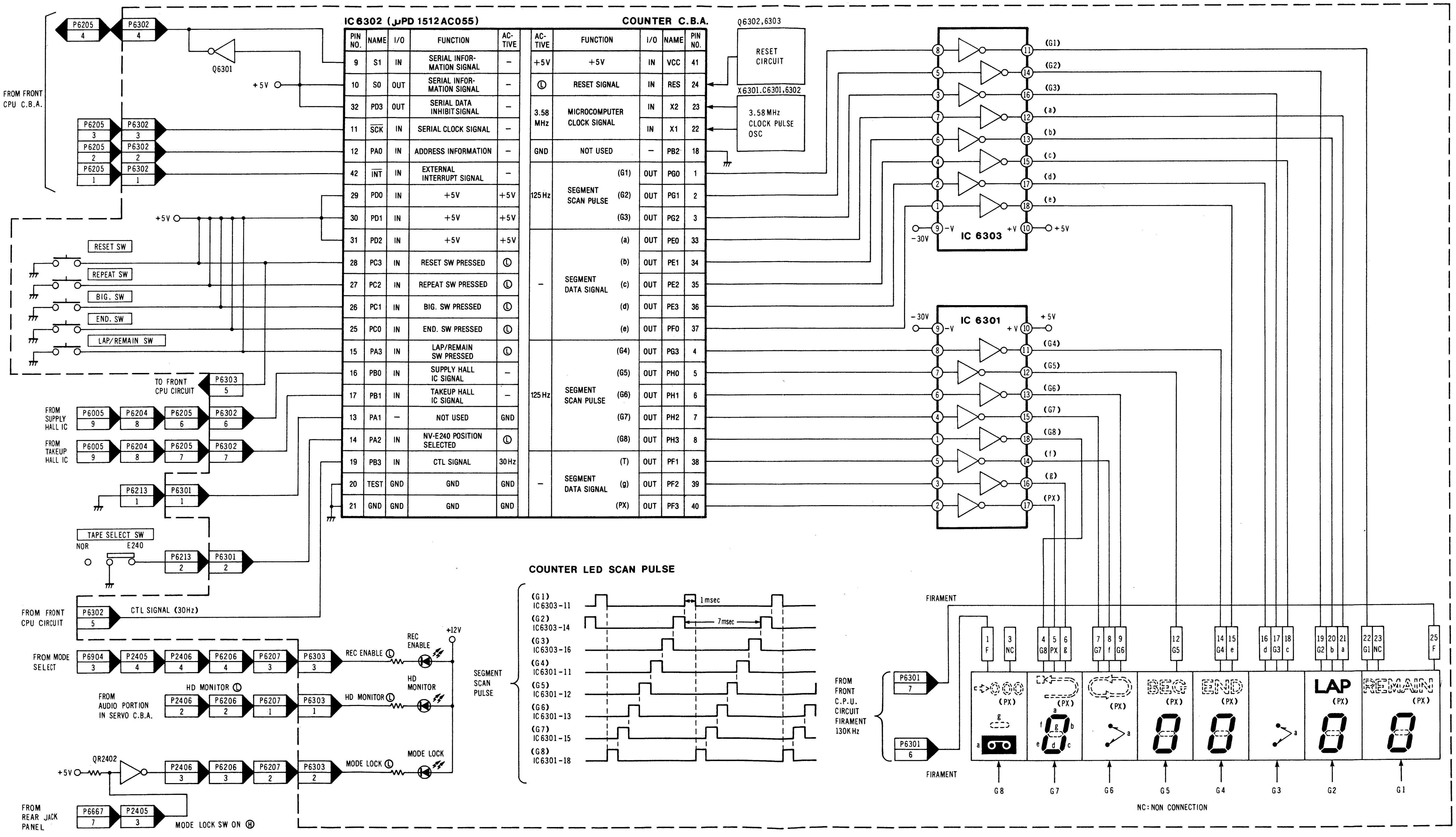
※1
These signals output by open collector circuit Therefore. user's remote controller circuits for ※1 Pins should be designed as shown below.

IC6601 INFORMATION (2)
REMOTE SEARCH CONTROL SIGNALS

MODE / PIN NO.	REVERSE					FORWARD							
	X10	X6	X2	X1	X1/2	X1/25	X1/10	X1/5	X1/2	X1	X2	X6	X10
REMOTE 19 IC6601-28	L	H	L	H	L	H	L	H	L	H	L	H	L
REMOTE 30 IC6601-26	H	H	H	H	L	L	L	L	L	H	H	H	H
REMOTE 33 IC6601-25	L	L	H	H	H	L	L	H	H	H	H	L	L
FWD/REV IC6601-29	L	L	L	L	L	H	H	H	H	H	H	H	H

L: .LOW. STATUS.   H: .HIGH. STATUS.

COUNTER BLOCK DIAGRAM

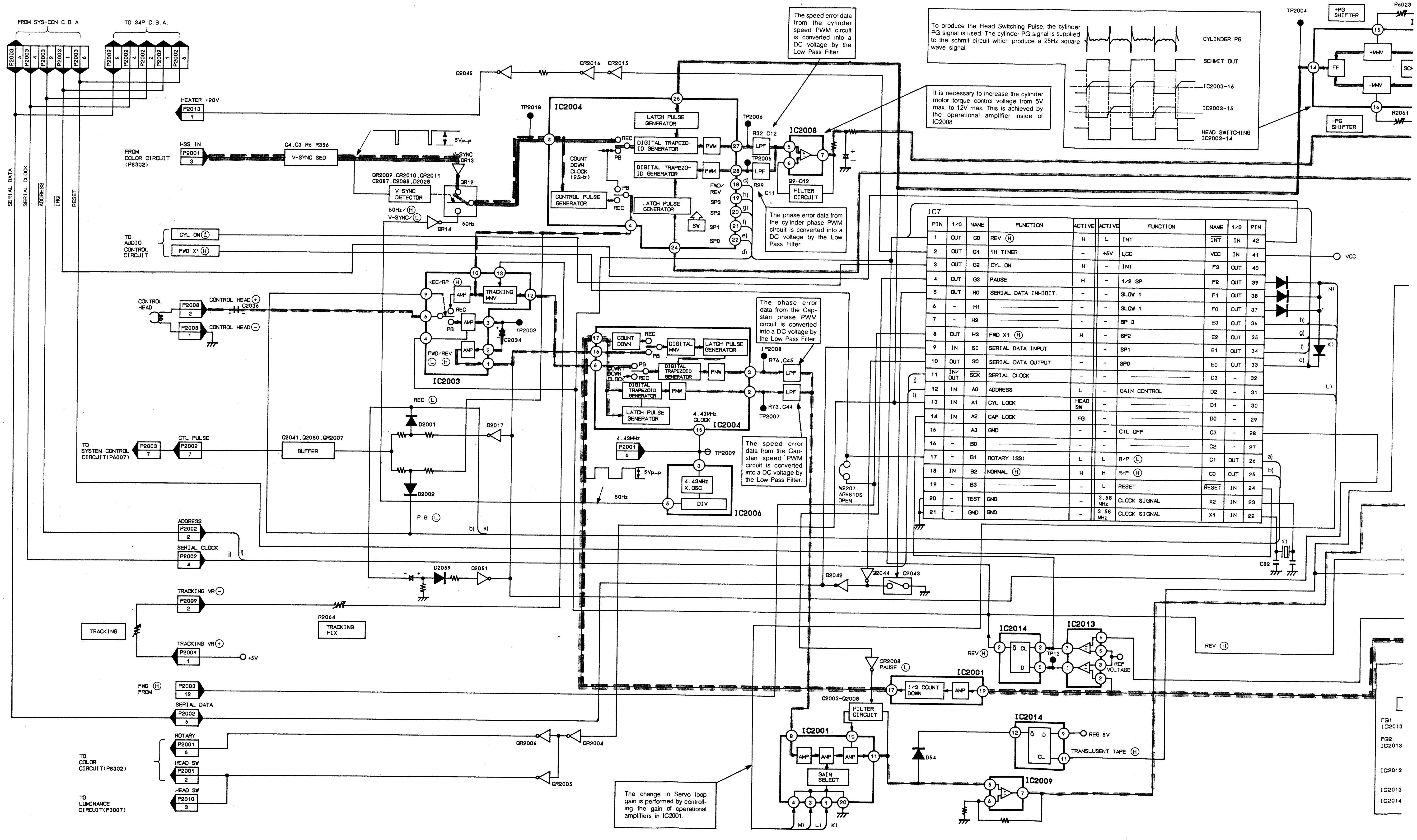


IC6302 (μPD 1512AC055) COUNTER C.B.A.

PIN NO.	NAME	I/O	FUNCTION	ACTIVE	ACTIVE	FUNCTION	I/O	NAME	PIN NO.
9	S1	IN	SERIAL INFORMATION SIGNAL	–	+5V	+5V	IN	VCC	41
10	S0	OUT	SERIAL INFORMATION SIGNAL	–	Ⓛ	RESET SIGNAL	IN	RES	24
32	PD3	OUT	SERIAL DATA INHIBIT SIGNAL	–	3.58 MHz	MICROCOMPUTER CLOCK SIGNAL	IN	X2	23
11	$\overline{\text{SCK}}$	IN	SERIAL CLOCK SIGNAL	–			IN	X1	22
12	PA0	IN	ADDRESS INFORMATION	–	GND	NOT USED	–	PB2	18
42	$\overline{\text{INT}}$	IN	EXTERNAL INTERRUPT SIGNAL	–	125 Hz	SEGMENT SCAN PULSE (G1)	OUT	PG0	1
29	PD0	IN	+5V	+5V		(G2)	OUT	PG1	2
30	PD1	IN	+5V	+5V		(G3)	OUT	PG2	3
31	PD2	IN	+5V	+5V	–	SEGMENT DATA SIGNAL (a)	OUT	PE0	33
28	PC3	IN	RESET SW PRESSED	Ⓛ		(b)	OUT	PE1	34
27	PC2	IN	REPEAT SW PRESSED	Ⓛ		(c)	OUT	PE2	35
26	PC1	IN	BIG. SW PRESSED	Ⓛ		(d)	OUT	PE3	36
25	PC0	IN	END. SW PRESSED	Ⓛ		(e)	OUT	PF0	37
15	PA3	IN	LAP/REMAIN SW PRESSED	Ⓛ	125 Hz	SEGMENT SCAN PULSE (G4)	OUT	PG3	4
16	PB0	IN	SUPPLY HALL IC SIGNAL	–		(G5)	OUT	PH0	5
17	PB1	IN	TAKEUP HALL IC SIGNAL	–		(G6)	OUT	PH1	6
13	PA1	–	NOT USED	GND		(G7)	OUT	PH2	7
14	PA2	IN	NV-E240 POSITION SELECTED	Ⓛ		(G8)	OUT	PH3	8
19	PB3	IN	CTL SIGNAL	30Hz	–	SEGMENT DATA SIGNAL (T)	OUT	PF1	38
20	TEST	GND	GND	GND		(g)	OUT	PF2	39
21	GND	GND	GND	GND		(PX)	OUT	PF3	40

P6205 4
P6302 4
Q6301
+5V
FROM FRONT CPU C.B.A.
P6205 3
P6302 3
P6205 2
P6302 2
P6205 1
P6302 1
+5V
RESET SW
REPEAT SW
BIG. SW
END. SW
LAP/REMAIN SW
TO FRONT CPU CIRCUIT
P6303 5
FROM SUPPLY HALL IC
P6005 9
P6204 8
P6205 6
P6302 6
FROM TAKEUP HALL IC
P6005 9
P6204 8
P6205 7
P6302 7
P6213 1
P6301 1
TAPE SELECT SW
NOR
E240
P6213 2
P6301 2
FROM FRONT CPU CIRCUIT
P6302 5
CTL SIGNAL (30Hz)
FROM MODE SELECT
P6904 3
P2405 4
P2406 4
P6206 4
P6207 3
P6303 3
REC ENABLE Ⓛ
REC ENABLE
+12V
FROM AUDIO PORTION IN SERVO C.B.A.
HD MONITOR Ⓛ
P2406 2
P6206 2
P6207 1
P6303 1
HD MONITOR Ⓛ
HD MONITOR
QR2402
+5V
P2406 3
P6206 3
P6207 2
P6303 2
MODE LOCK Ⓛ
MODE LOCK
FROM REAR JACK PANEL
P6667 7
P2405 3
MODE LOCK SW ON Ⓗ
Q6302,6303
RESET CIRCUIT
X6301,C6301,6302
3.58MHz CLOCK PULSE OSC
IC 6303
-V
+V
-30V
+5V
(G1)
(G2)
(G3)
(a)
(b)
(c)
(d)
(e)
IC 6301
(G4)
(G5)
(G6)
(G7)
(G8)
(f)
(g)
(PX)
COUNTER LED SCAN PULSE
SEGMENT SCAN PULSE
(G1) IC6303-11
(G2) IC6303-14
(G3) IC6303-16
(G4) IC6301-11
(G5) IC6301-12
(G6) IC6301-13
(G7) IC6301-15
(G8) IC6301-18
1msec
7msec
FIRAMENT
1 F
3 NC
4 G8
5 PX
6 g
7 G7
8 f
9 G6
12 G5
14 G4
15 e
16 d
17 G3
18 c
19 G2
20 b
21 a
22 G1
23 NC
25 F
FROM FRONT C.P.U. CIRCUIT FIRAMENT 130KHz
P6301 7
P6301 6
(PX)
BEG
END
LAP
REMAIN
G8
G7
G6
G5
G4
G3
G2
G1
NC: NON CONNECTION

SERVO BLOCK DIAGRAM


FROM SYS-CON C.B.A.
TO 34P C.B.A.
SERIAL DATA
SERIAL CLOCK
ADDRESS
IRQ
RESET
HEATER +20V
P2013
FROM COLOR CIRCUIT (P8302)
HSS IN
P2001
V-SYNC SED
C4,C3 R6 R356
5Vp-p
V-SYNC DETECTOR
QR2009,QR2010,QR2011 C2087,C2088,D2028
50Hz/Ⓗ V-SYNC/Ⓛ
QR12
QR13
QR14
Q2045
QR2016
QR2015
TP2018
IC2004
LATCH PULSE GENERATOR
DIGITAL TRAPEZOID GENERATOR
PWM
COUNT DOWN CLOCK (25Hz)
CONTROL PULSE GENERATOR
FWD/REV
SP3
SP2
SP1
SP0
SW
TP2006
R32 C12
TP2005
LPF
IC2008
Q9-Q12
FILTER CIRCUIT
R29
C11
TO AUDIO CONTROL CIRCUIT
CYL ON Ⓛ
FWD X1 Ⓗ
REC/RP Ⓗ
AMP
TRACKING MMV
IC2003
CONTROL HEAD
CONTROL HEAD ⊕
CONTROL HEAD ⊖
C2036
P2008
TP2002
C2034
FWD/REV Ⓛ Ⓗ
REC Ⓛ
D2001
D2002
Q2017
P.B Ⓛ
TO SYSTEM CONTROL CIRCUIT(P6007)
P2003
CTL PULSE
P2002
BUFFER
Q2041,Q2080,QR2007
IC2004
DIGITAL MMV
LATCH PULSE GENERATOR
DIGITAL TRAPEZOID GENERATOR
TP2008
R76,C45
R73,C44
TP2007
4.43MHz CLOCK
TP2009
4.43MHz X.OSC
DIV
IC2006
50Hz
ADDRESS
SERIAL CLOCK
TRACKING VR ⊖
TRACKING VR ⊕
P2009
TRACKING
R2064
TRACKING FIX
+5V
D2059
Q2051
FWD Ⓗ FROM
SERIAL DATA
ROTARY
HEAD SW
TO COLOR CIRCUIT(P8302)
TO LUMINANCE CIRCUIT(P3007)
P2010
QR2006
QR2004
QR2005
W2207 AG6810S OPEN
Q2042
Q2044
Q2043
IC2014
IC2013
REV Ⓗ
TP13
REF VOLTAGE
QR2008 PAUSE Ⓛ
IC2001
1/3 COUNT DOWN
Q2003-Q2008
FILTER CIRCUIT
GAIN SELECT
D54
REG 5V
TRANSLUSENT TAPE Ⓗ
IC2009
TP2004
+PG SHIFTER
-PG SHIFTER
R6023
R2061
FF
+MMV
-MMV
CYLINDER PG
SCHMIT OUT
IC2003-16
IC2003-15
HEAD SWITCHING IC2003-14
VCC
X1
C82
FG1 IC2013
FG2 IC2013
IC2013
IC2014

The speed error data from the cylinder speed PWM circuit is converted into a DC voltage by the Low Pass Filter.

To produce the Head Switching Pulse, the cylinder PG signal is used. The cylinder PG signal is supplied to the schmit circuit which produce a 25Hz square wave signal.

It is necessary to increase the cylinder motor torque control voltage from 5V max. to 12V max. This is achieved by the operational amplifier inside of IC2008.

The phase error data from the cylinder phase PWM circuit is converted into a DC voltage by the Low Pass Filter.

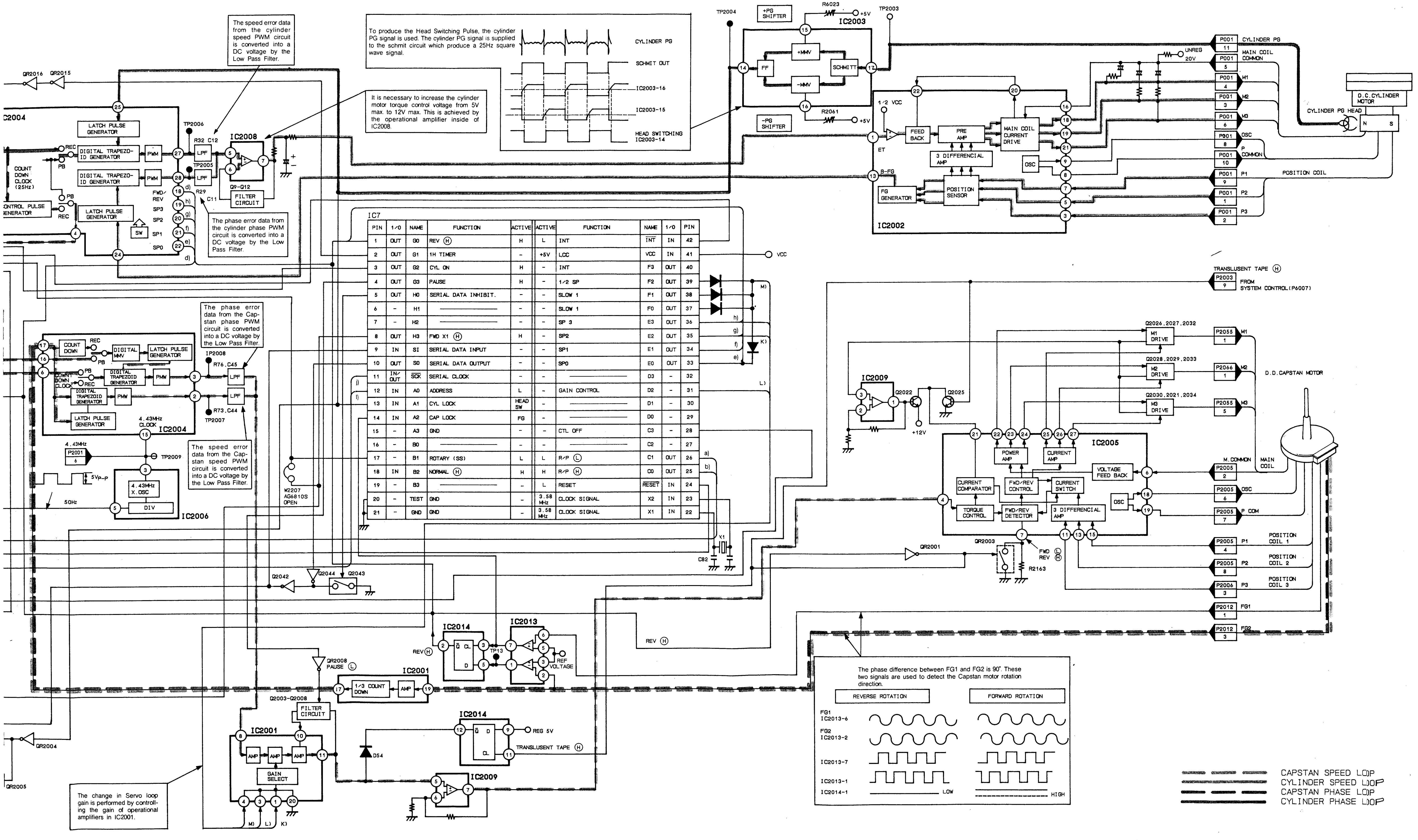
The phase error data from the Capstan phase PWM circuit is converted into a DC voltage by the Low Pass Filter.

The speed error data from the Capstan speed PWM circuit is converted into a DC voltage by the Low Pass Filter.

The change in Servo loop gain is performed by controlling the gain of operational amplifiers in IC2001.

IC7

PIN	1/0	NAME	FUNCTION	ACTIVE	ACTIVE	FUNCTION	NAME	1/0	PIN
1	OUT	G0	REV Ⓗ	H	L	INT	$\overline{\text{INT}}$	IN	42
2	OUT	G1	1H TIMER	–	+5V	LCC	VCC	IN	41
3	OUT	G2	CYL ON	H	–	INT	F3	OUT	40
4	OUT	G3	PAUSE	H	–	1/2 SP	F2	OUT	39
5	OUT	H0	SERIAL DATA INHIBIT.	–	–	SLOW 1	F1	OUT	38
6	–	H1	————	–	–	SLOW 1	F0	OUT	37
7	–	H2	————	–	–	SP 3	E3	OUT	36
8	OUT	H3	FWD X1 Ⓗ	H	–	SP2	E2	OUT	35
9	IN	SI	SERIAL DATA INPUT	–	–	SP1	E1	OUT	34
10	OUT	S0	SERIAL DATA OUTPUT	–	–	SP0	E0	OUT	33
11	IN/ OUT	$\overline{\text{SCK}}$	SERIAL CLOCK	–	–	————	D3	–	32
12	IN	A0	ADDRESS	L	–	GAIN CONTROL	D2	–	31
13	IN	A1	CYL LOCK	HEAD SW	–	————	D1	–	30
14	IN	A2	CAP LOCK	FG	–	————	D0	–	29
15	–	A3	GND	–	–	CTL OFF	C3	–	28
16	–	B0	————	–	–	————	C2	–	27
17	–	B1	ROTARY (SS)	L	L	R/P Ⓛ	C1	OUT	26
18	IN	B2	NORMAL Ⓗ	H	H	R/P Ⓗ	C0	OUT	25
19	–	B3	————	–	L	RESET	$\overline{\text{RESET}}$	IN	24
20	–	TEST	GND	–	3.58 MHz	CLOCK SIGNAL	X2	IN	23
21	–	GND	GND	–	3.58 MHz	CLOCK SIGNAL	X1	IN	22


QR2016
QR2015
IC2004
LATCH PULSE GENERATOR
DIGITAL TRAPEZOID GENERATOR
PWM
COUNT DOWN CLOCK (25Hz)
CONTROL PULSE GENERATOR
REC
PB
FWD/REV
SP3
SP2
SP1
SP0
SW
TP2006
R32 C12
LPF
TP2005
R29
C11
IC2008
Q9-Q12
FILTER CIRCUIT
CYLINDER PG
SCHMIT OUT
IC2003-16
IC2003-15
HEAD SWITCHING IC2003-14
TP2004
+PG SHIFTER
-PG SHIFTER
R6023
R2061
+5V
TP2003
IC2003
FF
+MMV
-MMV
SCHMITT
1/2 VCC
ET
B-FG
FEED BACK
PRE AMP
3 DIFFERENCIAL AMP
MAIN COIL CURRENT DRIVE
OSC
FG GENERATOR
POSITION SENSOR
IC2002
UNREG 20V
P001
CYLINDER PG
MAIN COIL COMMON
M1
M2
M3
OSC
P COMMON
P1
P2
P3
POSITION COIL
D.C.CYLINDER MOTOR
CYLINDER PG HEAD
N
S
VCC
TRANSLUSENT TAPE Ⓗ
P2003
FROM SYSTEM CONTROL(P6007)
COUNT DOWN
DIGITAL MMV
LATCH PULSE GENERATOR
DIGITAL TRAPEZOID GENERATOR
IP2008
R76,C45
R73,C44
TP2007
4.43MHz CLOCK
IC2004
4.43MHz
P2001
TP2009
5Vp-p
50Hz
4.43MHz X.OSC
DIV
IC2006
W2207 AG6810S OPEN
IC2009
Q2022
Q2025
+12V
Q2026,2027,2032
M1 DRIVE
Q2028,2029,2033
M2 DRIVE
Q2030,2021,2034
M3 DRIVE
P2055
P2066
D.D.CAPSTAN MOTOR
IC2005
POWER AMP
CURRENT AMP
VOLTAGE FEED BACK
CURRENT COMPARATOR
FWD/REV CONTROL
CURRENT SWITCH
TORQUE CONTROL
FWD/REV DETECTOR
3 DIFFERENCIAL AMP
M.COMMON
MAIN COIL
P2005
P COM
POSITION COIL 1
POSITION COIL 2
POSITION COIL 3
P2006
P2012
FG1
FG2
QR2001
QR2003
FWD Ⓛ
REV Ⓗ
R2163
X1
C82
Q2042
Q2044
Q2043
IC2014
IC2013
TP13
REV Ⓗ
REF VOLTAGE
QR2008 PAUSE Ⓛ
IC2001
1/3 COUNT DOWN
AMP
Q2003-Q2008
FILTER CIRCUIT
GAIN SELECT
D54
REG 5V
TRANSLUSENT TAPE Ⓗ
QR2004
QR2005
FG1 IC2013-6
FG2 IC2013-2
IC2013-7
IC2013-1
IC2014-1
LOW
HIGH
REVERSE ROTATION
FORWARD ROTATION
CAPSTAN SPEED LOOP
CYLINDER SPEED LOOP
CAPSTAN PHASE LOOP
CYLINDER PHASE LOOP

The speed error data from the cylinder speed PWM circuit is converted into a DC voltage by the Low Pass Filter.

To produce the Head Switching Pulse, the cylinder PG signal is used. The cylinder PG signal is supplied to the schmit circuit which produce a 25Hz square wave signal.

It is necessary to increase the cylinder motor torque control voltage from 5V max. to 12V max. This is achieved by the operational amplifier inside of IC2008.

The phase error data from the cylinder phase PWM circuit is converted into a DC voltage by the Low Pass Filter.

The phase error data from the Capstan phase PWM circuit is converted into a DC voltage by the Low Pass Filter.

The speed error data from the Capstan speed PWM circuit is converted into a DC voltage by the Low Pass Filter.

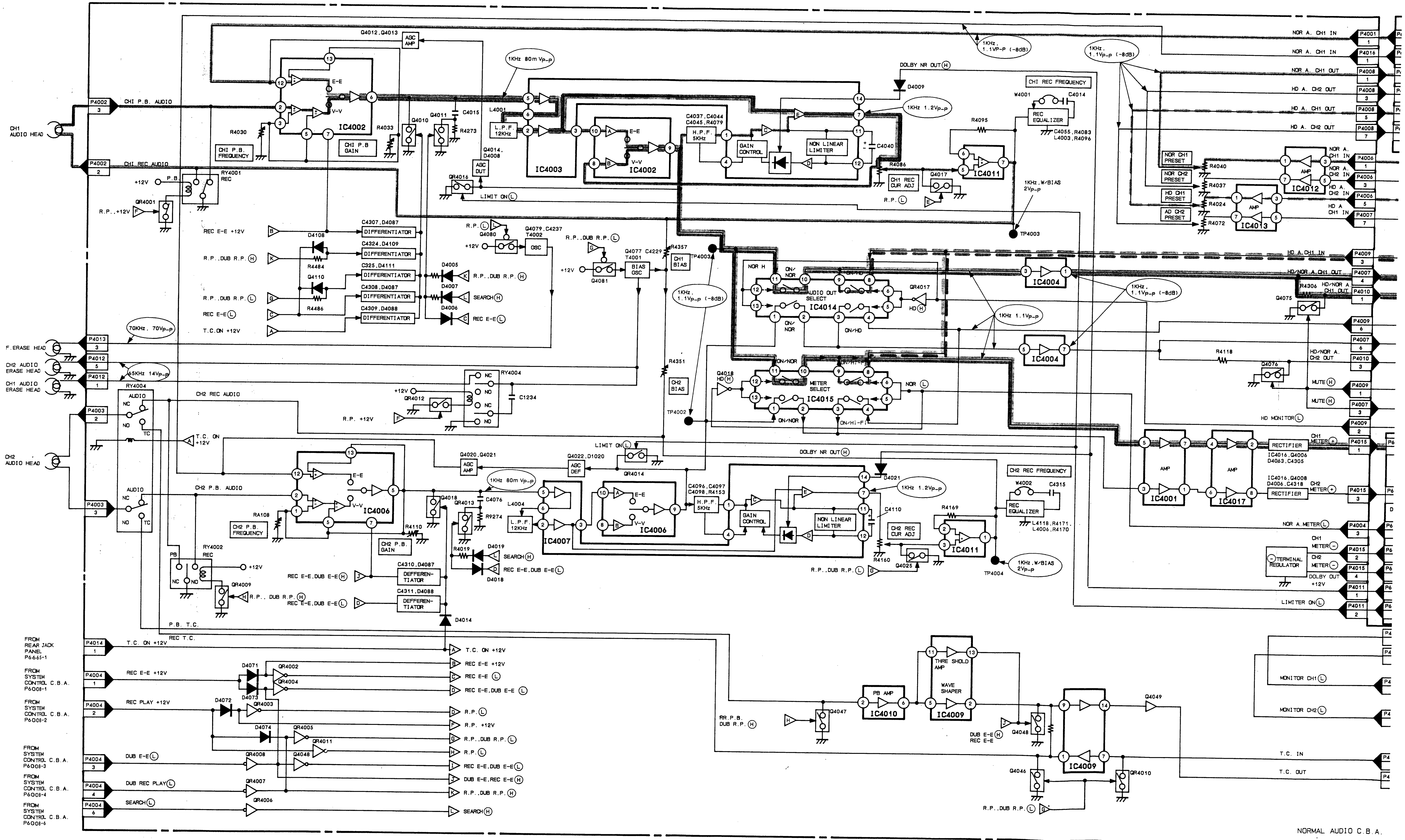
IC7

PIN	1/0	NAME	FUNCTION	ACTIVE	ACTIVE	FUNCTION	NAME	1/0	PIN
1	OUT	G0	REV Ⓗ	H	L	INT	$\overline{INT}$	IN	42
2	OUT	G1	1H TIMER	-	+5V	LCC	VCC	IN	41
3	OUT	G2	CYL ON	H	-	INT	F3	OUT	40
4	OUT	G3	PAUSE	H	-	1/2 SP	F2	OUT	39
5	OUT	H0	SERIAL DATA INHIBIT.	-	-	SLOW 1	F1	OUT	38
6	-	H1	————	-	-	SLOW 1	F0	OUT	37
7	-	H2	————	-	-	SP 3	E3	OUT	36
8	OUT	H3	FWD X1 Ⓗ	H	-	SP2	E2	OUT	35
9	IN	SI	SERIAL DATA INPUT	-	-	SP1	E1	OUT	34
10	OUT	S0	SERIAL DATA OUTPUT	-	-	SP0	E0	OUT	33
11	IN/OUT	$\overline{SCK}$	SERIAL CLOCK	-	-	————	D3	-	32
12	IN	A0	ADDRESS	L	-	GAIN CONTROL	D2	-	31
13	IN	A1	CYL LOCK	HEAD SW	-	————	D1	-	30
14	IN	A2	CAP LOCK	FG	-	————	D0	-	29
15	-	A3	GND	-	-	CTL OFF	C3	-	28
16	-	B0	————	-	-	————	C2	-	27
17	-	B1	ROTARY (SS)	L	L	R/P Ⓛ	C1	OUT	26
18	IN	B2	NORMAL Ⓗ	H	H	R/P Ⓗ	C0	OUT	25
19	-	B3	————	-	L	RESET	$\overline{RESET}$	IN	24
20	-	TEST	GND	-	3.58 MHz	CLOCK SIGNAL	X2	IN	23
21	-	GND	GND	-	3.58 MHz	CLOCK SIGNAL	X1	IN	22

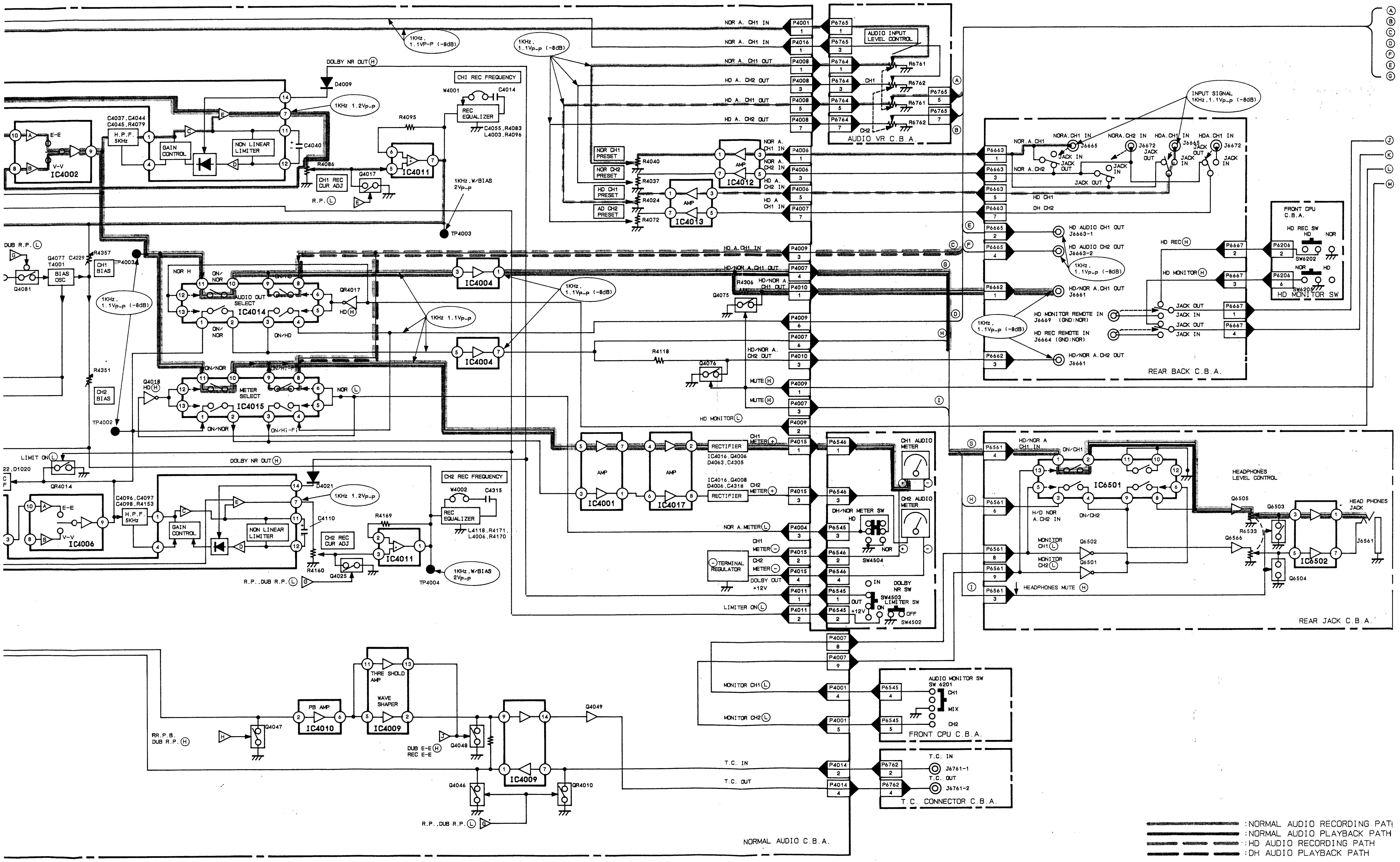
The phase difference between FG1 and FG2 is 90°. These two signals are used to detect the Capstan motor rotation direction.

The change in Servo loop gain is performed by controlling the gain of operational amplifiers in IC2001.

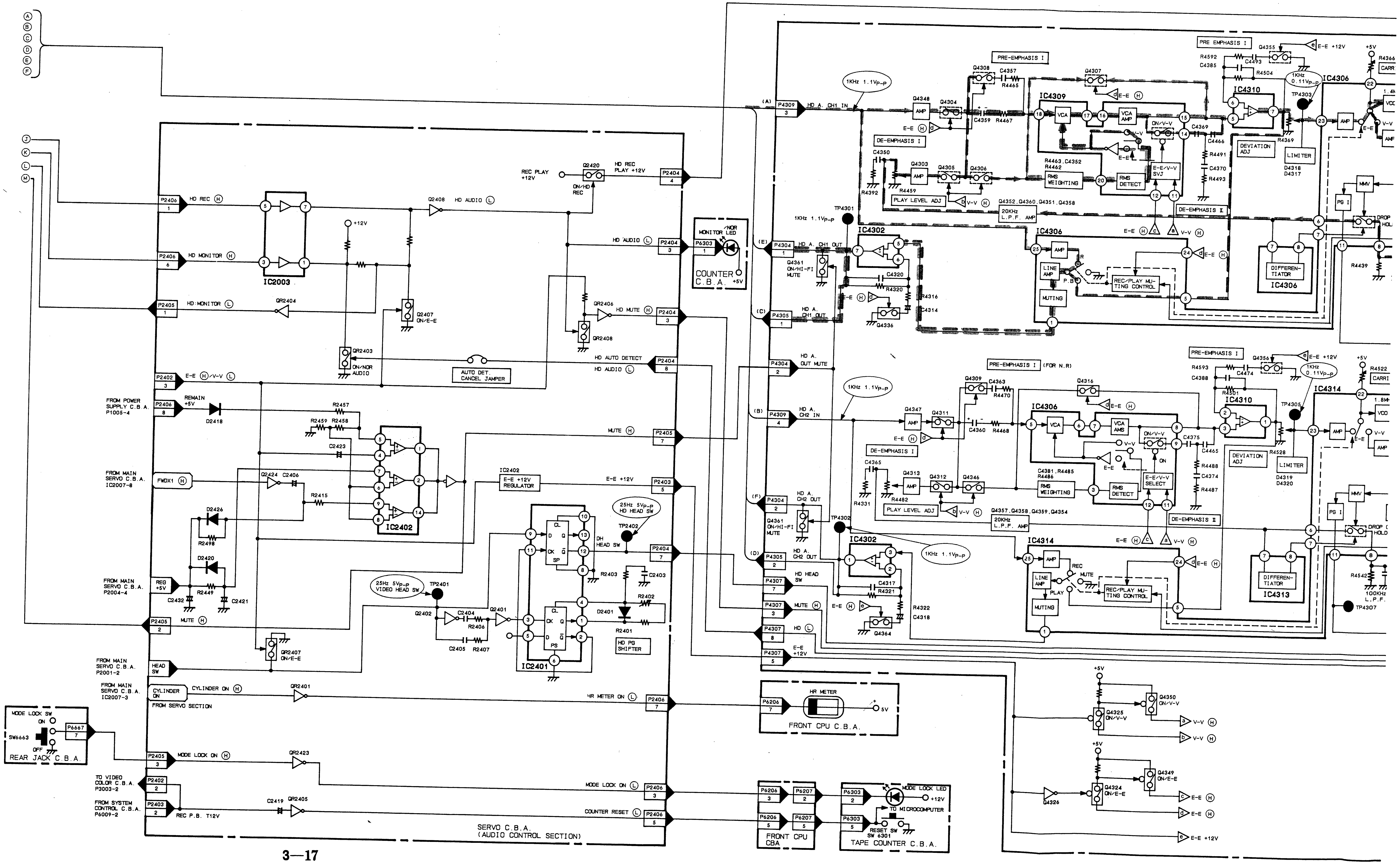
NORMAL AUDIO, HEADPHOES AND REAR JACK BLOCK DIAGRAM


CH1 AUDIO HEAD
P4002
CHI P.B. AUDIO
CHI REC AUDIO
R4030
CHI P.B. FREQUENCY
CHI P.B GAIN
IC4002
E-E
V-V
R4033
Q4010
Q4011
C4015
R4273
Q4012,Q4013
AGC AMP
AGC OUT
Q4014, D4008
QR4016
LIMIT ON (L)
1KHz 80m Vp-p
L4001
L.P.F. 12KHz
IC4003
C4037,C4044
C4045,R4079
H.P.F. 5KHz
GAIN CONTROL
NON LINEAR LIMITER
C4040
R4086
CH1 REC CUR ADJ
Q4017
R.P. (L)
1KHz, 1.1VP-P (-8dB)
DOLBY NR OUT (H)
D4009
1KHz 1.2Vp-p
CHI REC FREQUENCY
W4001
C4014
REC EQUALIZER
C4055,R4083
L4003,R4096
R4095
IC4011
1KHz, W/BIAS 2Vp-p
TP4003
RY4001 REC
P.B.
+12V
QR4001
R.P.,+12V
REC E-E +12V
R.P.,DUB R.P. (H)
R.P.,DUB R.P. (L)
REC E-E (L)
T.C.ON +12V
D4108
R4484
Q4110
R4486
C4307,D4087 DIFFERENTIATOR
C4324,D4109 DIFFERENTIATOR
C325,D4111 DIFFERENTIATOR
C4308,D4087 DIFFERENTIATOR
C4309,D4088 DIFFERENTIATOR
D4005
D4007
D4006
SEARCH (H)
REC E-E (L)
Q4080
Q4079,C4237 T4002
OSC
R.P.,DUB R.P. (L)
Q4077 C4229 T4001
BIAS OSC
Q4081
R4357
CH1 BIAS
TP4003
1KHz, 1.1Vp-p (-8dB)
70KHz, 70Vp-p
F.ERASE HEAD
CH2 AUDIO ERASE HEAD
CH1 AUDIO ERASE HEAD
P4013
P4012
65KHz 14Vp-p
RY4004
AUDIO
NC
NO
TC
CH2 REC AUDIO
QR4012
R.P. +12V
C1234
R4351
CH2 BIAS
TP4002
CH2 AUDIO HEAD
P4003
T.C. ON +12V
NOR H
ON/NOR
AUDIO OUT SELECT
IC4014
ON/HD
ON/Hi-Fi
QR4017
HD (H)
Q4018 HD (H)
METER SELECT
IC4015
NOR (L)
IC4004
1KHz, 1.1Vp-p (-8dB)
1KHz 1.1Vp-p
HD A.CH1 IN
HD/NOR A.CH1 OUT
R4306
HD/NOR A CH1 OUT
Q4075
R4118
Q4076
HD/NOR A. CH2 OUT
MUTE (H)
HD MONITOR (L)
NOR A. CH1 IN
NOR A. CH1 OUT
HD A. CH2 OUT
HD A. CH1 OUT
NOR CH1 PRESET
NOR CH2 PRESET
HD CH1 PRESET
AD CH2 PRESET
R4040
R4037
R4024
R4072
AMP
IC4012
IC4013
NOR A. CH1 IN
NOR A. CH2 IN
HD A. CH2 IN
HD A CH1 IN
P4001
P4016
P4008
P4006
P4007
P4009
P4010
P4015
P4004
P4011
LIMIT ON (L)
DOLBY NR OUT (H)
Q4020,Q4021
AGC AMP
Q4022,D1020
AGC DEF
QR4014
1KHz 80m Vp-p
CH2 P.B. AUDIO
IC4006
RA108
CH2 P.B. FREQUENCY
R4110
CH2 P.B. GAIN
Q4018
QR4013
C4076
R9274
L4004
L.P.F 12KHz
IC4007
R4019
D4019
D4018
SEARCH (H)
REC E-E,DUB E-E (L)
C4096,C4097
C4098,R4153
H.P.F. 5KHz
GAIN CONTROL
NON LINEAR LIMITER
D4021
1KHz 1.2Vp-p
C4110
CH2 REC CUR ADJ
R4160
Q4025
R.P.,DUB R.P. (L)
CH2 REC FREQUENCY
W4002
C4315
REC EQUALIZER
L4118,R4171,
L4006,R4170
R4169
IC4011
TP4004
1KHz,W/BIAS 2Vp-p
RECTIFIER
IC4016,Q4006
D4063,C4305
IC4016,Q4008
D4006,C4318
CH1 METER (+)
CH2 METER (+)
IC4001
IC4017
NOR A. METER (L)
CH1 METER (-)
CH2 METER (-)
TERMINAL REGULATOR
DOLBY OUT +12V
LIMITER ON (L)
RY4002 REC
PB
NC
NO
+12V
QR4009
R.P., DUB R.P. (H)
REC E-E,DUB E-E (H)
REC E-E,DUB E-E (L)
C4310,D4087 DEFFERENTIATOR
C4311,D4088 DEFFERENTIATOR
D4014
P.B. T.C.
REC T.C.
FROM REAR JACK PANEL P6665-1
P4014
T.C. ON +12V
FROM SYSTEM CONTROL C.B.A. P6008-1
REC E-E +12V
D4071
QR4002
QR4004
D4073
FROM SYSTEM CONTROL C.B.A. P6008-2
REC PLAY +12V
D4072
QR4003
D4074
QR4005
QR4011
FROM SYSTEM CONTROL C.B.A. P6008-3
DUB E-E (L)
QR4008
Q4048
FROM SYSTEM CONTROL C.B.A. P6008-4
DUB REC PLAY (L)
QR4007
FROM SYSTEM CONTROL C.B.A. P6008-6
SEARCH (L)
QR4006
T.C. ON +12V
REC E-E +12V
REC E-E (L)
REC E-E,DUB E-E (L)
R.P. (L)
R.P. +12V
R.P.,DUB R.P. (L)
R.P. (L)
REC E-E,DUB E-E (L)
DUB E-E,REC E-E (H)
R.P.,DUB R.P. (H)
SEARCH (H)
RR.P.B. DUB R.P. (H)
Q4047
PB AMP
IC4010
THRE SHOLD AMP
WAVE SHAPER
IC4009
DUB E-E (H)
REC E-E
Q4048
Q4049
Q4046
QR4010
R.P.,DUB R.P. (L)
MONITOR CH1 (L)
MONITOR CH2 (L)
T.C. IN
T.C. OUT
NORMAL AUDIO C.B.A.

CK DIAGRAM

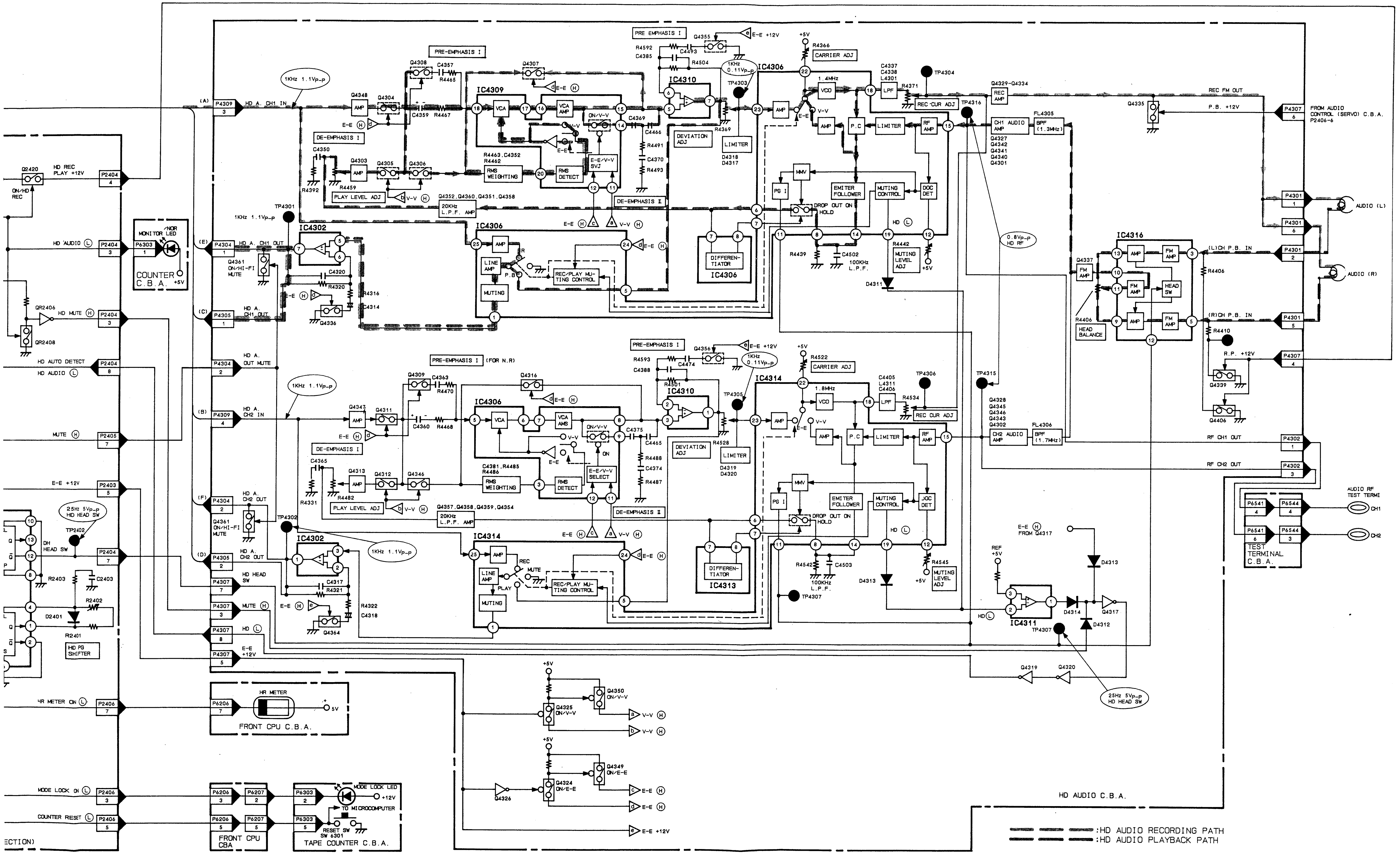

NOR A. CH1 IN
NOR A. CH1 OUT
HD A. CH2 OUT
HD A. CH1 OUT
1KHz, 1.1VP-P (-8dB)
1KHz, 1.1Vp-p (-8dB)
DOLBY NR OUT (H)
D4009
CH1 REC FREQUENCY
W4001
C4014
REC EQUALIZER
C4055, R4083
L4003, R4096
R4095
1KHz 1.2Vp-p
C4037, C4044
C4045, R4079
H.P.F. 5KHz
GAIN CONTROL
NON LINEAR LIMITER
C4040
R4086
E-E
V-V
IC4002
CH1 REC CUR ADJ
Q4017
IC4011
R.P. (L)
1KHz, W/BIAS 2Vp-p
TP4003
DUB R.P. (L)
Q4077 C4229
T4001
R4357
BIAS OSC
CH1 BIAS
TP4003
Q4081
NOR H
ON/NOR
ON/HD
AUDIO OUT SELECT
IC4014
QR4017
HD (H)
ON/NOR
ON/HD
IC4004
1KHz 1.1Vp-p
R4351
CH2 BIAS
Q4018 HD (H)
METER SELECT
IC4015
ON/Hi-Fi
NOR (L)
TP4002
ON/NOR
ON/Hi-Fi
LIMIT ON (L)
QR4014
DOLBY NR OUT (H)
D4021
1KHz 1.2Vp-p
CH2 REC FREQUENCY
W4002
C4315
REC EQUALIZER
L4118, R4171
L4006, R4170
C4096, C4097
C4098, R4153
H.P.F. 5KHz
GAIN CONTROL
NON LINEAR LIMITER
C4110
R4169
CH2 REC CUR ADJ
IC4006
IC4011
R4160
Q4025
R.P., DUB R.P. (L)
TP4004
1KHz, W/BIAS 2Vp-p
NOR CH1 PRESET
NOR CH2 PRESET
HD CH1 PRESET
AD CH2 PRESET
R4040
R4037
R4024
R4072
IC4012
IC4013
AMP
NOR A. CH1 IN
NOR A. CH2 IN
HD A. CH2 IN
HD A. CH1 IN
HD A. CH1 IN
HD/NOR A. CH1 OUT
R4306
HD/NOR A. CH1 OUT
Q4075
R4118
HD/NOR A. CH2 OUT
Q4076
MUTE (H)
MUTE (H)
HD MONITOR (L)
P4001
P4016
P4008
P4006
P4007
P4009
P4010
P4015
P4004
P4011
P4014
P6765
P6764
AUDIO INPUT LEVEL CONTROL
R6761
R6762
CH1
CH2
AUDIO VR C.B.A.
INPUT SIGNAL 1KHz, 1.1Vp-p (-8dB)
NOR A. CH1
NORA. CH1 IN
J6665
JACK IN
JACK OUT
NORA. CH2 IN
J6672
HDA. CH1 IN
HDA. CH1 IN
J6672
NOR A. CH2
JACK OUT
HD CH1
DH CH2
P6663
P6665
P6662
P6667
HD AUDIO CH1 OUT J6663-1
HD AUDIO CH2 OUT J6663-2
1KHz, 1.1Vp-p (-8dB)
HD/NOR A. CH1 OUT J6661
HD MONITOR REMOTE IN J6669 (GND: NOR)
HD REC REMOTE IN J6664 (GND: NOR)
HD/NOR A. CH2 OUT J6661
HD REC (H)
HD MONITOR (H)
JACK OUT
JACK IN
REAR BACK C.B.A.
FRONT CPU C.B.A.
HD REC SW
HD NOR
P6206
SW6202
HD MONITOR SW
SW6203
CH1 METER (+)
CH2 METER (+)
RECTIFIER
IC4016, Q4006
D4063, C4305
IC4016, Q4008
D4006, C4318
IC4001
IC4017
AMP
NOR A. METER (L)
CH1 METER (-)
CH2 METER (-)
TERMINAL REGULATOR
DOLBY OUT
+12V
LIMITER ON (L)
P6546
P6545
CH1 AUDIO METER
CH2 AUDIO METER
DH/NOR METER SW
HD NOR
SW4504
IN OUT
DOLBY NR SW
SW4503
LIMITER SW
ON OFF
SW4502
HD/NOR A CH1 IN
ON/CH1
IC6501
ON/CH2
H/D NOR A. CH2 IN
MONITOR CH1 (L)
MONITOR CH2 (L)
Q6502
Q6501
HEADPHONES MUTE (H)
HEADPHONES LEVEL CONTROL
Q6505
Q6503
R6533
Q6566
Q6504
IC6502
HEAD PHONES JACK
J6561
P6561
REAR JACK C.B.A.
P4007
MONITOR CH1 (L)
MONITOR CH2 (L)
AUDIO MONITOR SW
SW 6201
CH1
MIX
CH2
FRONT CPU C.B.A.
T.C. IN
T.C. OUT
P6762
J6761-1
J6761-2
T.C. CONNECTOR C.B.A.
RR.P.B.
DUB R.P. (H)
Q4047
PB AMP
IC4010
THRE SHOLD AMP
WAVE SHAPER
IC4009
DUB E-E (H)
REC E-E
Q4048
Q4049
IC4009
Q4046
QR4010
R.P., DUB R.P. (L)
NORMAL AUDIO C.B.A.
NORMAL AUDIO RECORDING PATH
NORMAL AUDIO PLAYBACK PATH
HD AUDIO RECORDING PATH
DH AUDIO PLAYBACK PATH

HD AUDIO AND AUDIO CONTROL BLOCK DIAGRAM

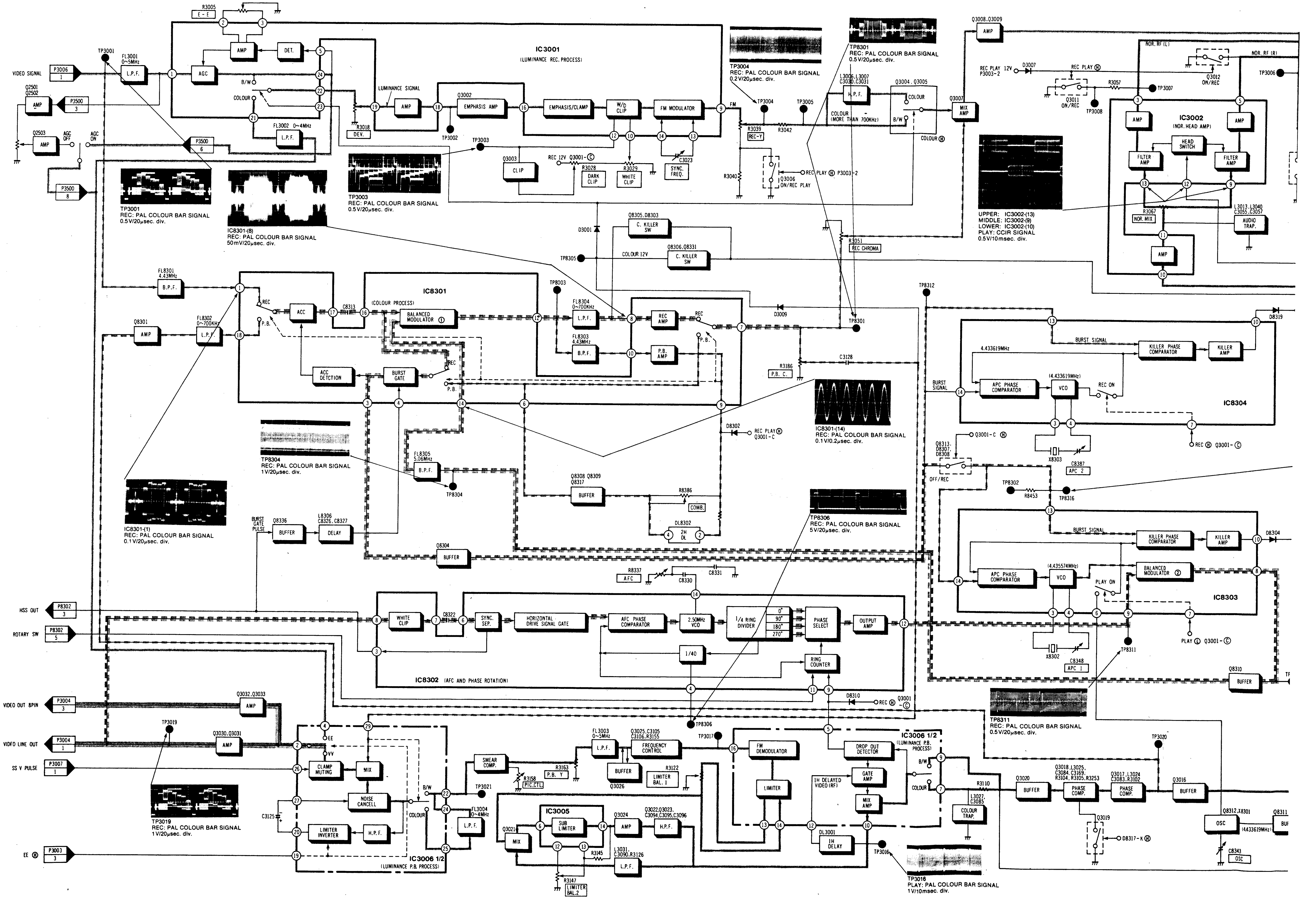


SERVO C.B.A. (AUDIO CONTROL SECTION)
IC2003
IC2402
IC2401
HD REC Ⓗ
HD MONITOR Ⓗ
HD MONITOR Ⓛ
HD AUDIO Ⓛ
HD MUTE Ⓗ
HD AUTO DETECT
AUTO DET. CANCEL JAMPER
REC PLAY +12V
HD REC PLAY +12V
ON/HD REC
Q2420
Q2408
QR2404
QR2403
QR2406
QR2408
Q2407 ON/E-E
E-E Ⓗ/V-V Ⓛ
FROM POWER SUPPLY C.B.A. P1005-4
REMAIN +5V
D2418
FROM MAIN SERVO C.B.A. IC2007-8
FWDX1 Ⓗ
FROM MAIN SERVO C.B.A. P2004-4
REG +5V
MUTE Ⓗ
E-E +12V REGULATOR
E-E +12V
25Hz 5Vp-p HD HEAD SW
TP2402
DH HEAD SW
25Hz 5Vp-p VIDEO HEAD SW
TP2401
HD PG SHIFTER
FROM MAIN SERVO C.B.A. P2001-2
HEAD SW
FROM MAIN SERVO C.B.A. IC2007-3
CYLINDER ON
CYLINDER ON Ⓗ
FROM SERVO SECTION
QR2401
4HR METER ON Ⓛ
MODE LOCK SW
SW6663
P6667
REAR JACK C.B.A.
MODE LOCK ON Ⓗ
QR2423
MODE LOCK ON Ⓛ
TO VIDEO COLOR C.B.A. P3003-2
FROM SYSTEM CONTROL C.B.A. P6009-2
REC P.B. T12V
COUNTER RESET Ⓛ
QR2405
MONITOR LED
COUNTER C.B.A.
HD A. CH1 IN
HD A. CH1 OUT
HD A. OUT MUTE
HD A. CH2 IN
HD A. CH2 OUT
HD HEAD SW
Q4361 ON/HI-FI MUTE
1KHz 1.1Vp-p
TP4301
TP4302
IC4302
IC4309
IC4306
IC4310
IC4314
IC4313
PRE-EMPHASIS I
PRE-EMPHASIS I (FOR N.R)
DE-EMPHASIS I
DE-EMPHASIS II
VCA
VCA AMP
ON/V-V
RMS WEIGHTING
RMS DETECT
E-E/V-V SVJ
E-E/V-V SELECT
PLAY LEVEL ADJ
20KHz L.P.F. AMP
LINE AMP
MUTING
REC/PLAY MUTING CONTROL
DEVIATION ADJ
LIMITER
DIFFERENTIATOR
MMV
PG I
DROP HOLD
TP4303
TP4305
TP4307
100KHz L.P.F.
HR METER
FRONT CPU C.B.A.
FRONT CPU CBA
MODE LOCK LED
TO MICROCOMPUTER
RESET SW SW 6301
TAPE COUNTER C.B.A.
Q4350 ON/V-V
Q4325 ON/V-V
Q4349 ON/E-E
Q4324 ON/E-E
Q4326

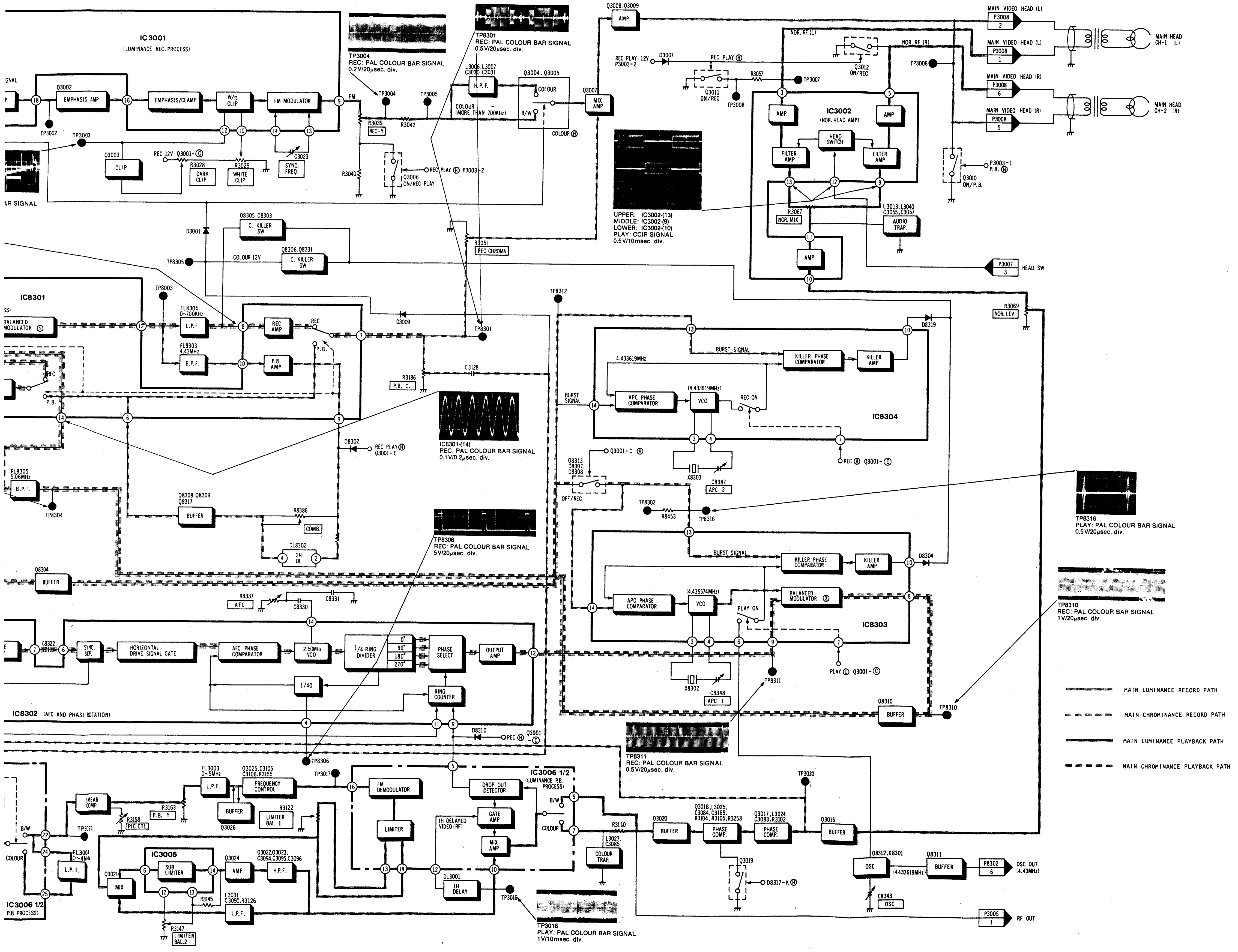
AM


P4309
HD A. CH1 IN
1KHz 1.1Vp-p
PRE-EMPHASIS I
Q4308
C4357
R4465
Q4307
E-E
IC4309
VCA
VCA AMP
ON/V-V
C4369
Q4304
Q4348
AMP
C4359
R4467
DE-EMPHASIS I
C4350
Q4303
Q4305
Q4306
R4459
R4392
PLAY LEVEL ADJ
V-V
Q4352,Q4360,Q4351,Q4358
20KHz L.P.F. AMP
R4463,C4352
R4462
RMS WEIGHTING
RMS DETECT
E-E/V-V SVJ
C4466
R4491
C4370
R4493
DE-EMPHASIS II
PRE EMPHASIS I
Q4355
E-E +12V
R4592
C4385
C4493
R4504
1KHz 0.11Vp-p
IC4310
TP4303
R4369
DEVIATION ADJ
LIMITER
D4318
D4317
IC4306
+5V
R4366
CARRIER ADJ
1.4MHz
VCO
AMP
V-V
P.C
LIMITER
RF AMP
LPF
C4337
C4338
L4301
R4371
REC CUR ADJ
TP4304
TP4316
Q4329-Q4334
REC AMP
CH1 AUDIO AMP
Q4327
Q4342
Q4341
Q4340
Q4301
FL4305
BPF (1.3MHz)
REC FM OUT
P.B. +12V
Q4335
P4307
FROM AUDIO CONTROL (SERVO) C.B.A. P2406-6
MMV
PG I
EMITER FOLLOWER
MUTING CONTROL
DOC DET
DROP OUT ON HOLD
HD
DIFFEREN-TIATOR
IC4306
R4439
C4502
100KHz L.P.F.
R4442
MUTING LEVEL ADJ
D4311
0.8Vp-p HD RF
P4301
AUDIO (L)
AUDIO (R)
IC4316
AMP
FM AMP
HEAD SW
Q4337
(L)CH P.B. IN
(R)CH P.B. IN
R4406
R4410
HEAD BALANCE
R.P. +12V
Q4339
Q4406
Q2420
HD REC PLAY +12V
ON/HD REC
P2404
HD AUDIO
MONITOR LED
NOR
P6303
COUNTER C.B.A.
TP4301
1KHz 1.1Vp-p
P4304
HD A. CH1 OUT
Q4361 ON/HI-FI MUTE
IC4302
C4320
R4320
R4316
C4314
Q4336
QR2406
HD MUTE
QR2408
P4305
HD A. CH1 OUT
LINE AMP
MUTING
REC/PLAY MUTING CONTROL
HD AUTO DETECT
HD AUDIO
HD A. OUT MUTE
PRE-EMPHASIS I (FOR N.R)
Q4309
C4363
R4470
Q4316
1KHz 1.1Vp-p
HD A. CH2 IN
Q4347
Q4311
C4360
R4468
IC4306
ON/V-V
E-E/V-V SELECT
C4375
C4465
R4488
C4374
R4487
C4365
Q4313
Q4312
Q4346
R4482
R4331
C4381,R4485
R4486
Q4357,Q4358,Q4359,Q4354
PRE-EMPHASIS I
Q4356
R4593
C4388
C4474
R4501
IC4310
TP4305
R4528
D4319
D4320
IC4314
1.8MHz
R4522
C4405
L4311
C4406
R4534
TP4306
TP4315
Q4328
Q4345
Q4346
Q4343
Q4302
CH2 AUDIO AMP
FL4306
BPF (1.7MHz)
RF CH1 OUT
RF CH2 OUT
P4302
JOC DET
IC4313
R4542
C4503
R4545
D4313
TP4307
MUTE
E-E +12V
P2405
P2403
25Hz 5Vp-p HD HEAD SW
TP2402
DH HEAD SW
R2403
C2403
R2402
D2401
R2401
HD PG SHIFTER
TP4302
IC4302
C4317
R4321
R4322
C4318
Q4364
HD A. CH2 OUT
HD HEAD SW
AUDIO RF TEST TERMI
P6541
P6544
CH1
CH2
TEST TERMINAL C.B.A.
E-E FROM Q4317
REF +5V
D4313
IC4311
D4314
Q4317
D4312
Q4319
Q4320
25Hz 5Vp-p HD HEAD SW
HR METER
HR METER ON
P2406
P6206
FRONT CPU C.B.A.
+5V
Q4350 ON/V-V
Q4325 ON/V-V
Q4349 ON/E-E
Q4324 ON/E-E
Q4326
MODE LOCK ON
COUNTER RESET
P6207
MODE LOCK LED
+12V
TO MICROCOMPUTER
RESET SW SW 6301
FRONT CPU CBA
TAPE COUNTER C.B.A.
ECTION)
HD AUDIO C.B.A.
:HD AUDIO RECORDING PATH
:HD AUDIO PLAYBACK PATH

LUMINANCE & CHROMINANCE BLOCK DIAGRAM


IC3001
(LUMINANCE REC. PROCESS)
VIDEO SIGNAL
P3006
TP3001
FL3001 0~5MHz
L.P.F.
AGC
AMP
DET.
R3005
E - E
B/W
COLOUR
FL3002 0~4MHz
R3018
DEV.
LUMINANCE SIGNAL
Q3002
EMPHASIS AMP
EMPHASIS/CLAMP
W/D CLIP
FM MODULATOR
Q3003
CLIP
REC 12V Q3001-Ⓒ
R3028
DARK CLIP
R3029
WHITE CLIP
C3023
SYNC. FREQ.
TP3002
TP3003
Q2501 Q2502
Q2503
AGC OFF
AGC ON
P3500
TP3001
REC: PAL COLOUR BAR SIGNAL
0.5V/20μsec. div.
IC8301-(8)
REC: PAL COLOUR BAR SIGNAL
50mV/20μsec. div.
TP3003
REC: PAL COLOUR BAR SIGNAL
0.5V/20μsec. div.
TP3004
REC: PAL COLOUR BAR SIGNAL
0.2V/20μsec. div.
TP8301
REC: PAL COLOUR BAR SIGNAL
0.5V/20μsec. div.
FM
R3039
REC-Y
R3042
R3040
Q3006 ON/REC PLAY
REC PLAY Ⓗ P3003-2
L3006, L3007 C3030, C3031
H.P.F.
COLOUR (MORE THAN 700KHz)
Q3004, Q3005
B/W
COLOUR Ⓗ
Q3007
MIX AMP
Q3008, Q3009
AMP
REC PLAY 12V P3003-2
D3007
REC PLAY Ⓗ
Q3011 ON/REC
TP3008
R3057
TP3007
Q3012 ON/REC
NOR. RF (L)
NOR. RF (R)
TP3006
IC3002
(NOR. HEAD AMP)
HEAD SWITCH
FILTER AMP
R3067
NOR. MIX
L3013, L3040 C3055, C3057
AUDIO TRAP.
UPPER: IC3002-(13)
MIDDLE: IC3002-(9)
LOWER: IC3002-(10)
PLAY: CCIR SIGNAL
0.5V/10msec. div.
D3001
Q8305, D8303
C. KILLER SW
Q8306, Q8331
COLOUR 12V
TP8305
R3051
REC CHROMA
FL8301 4.43MHz
B.P.F.
IC8301
(COLOUR PROCESS)
Q8301
FL8302 0~700KHz
REC
P.B.
ACC
C8313
BALANCED MODULATOR ①
ACC DETECTION
BURST GATE
TP8003
FL8304 0~700KHz
FL8303 4.43MHz
REC AMP
P.B. AMP
D3009
TP8301
R3186
P.B. C.
C3128
TP8312
D8302
REC PLAY Ⓗ Q3001-C
IC8301-(14)
REC: PAL COLOUR BAR SIGNAL
0.1V/0.2μsec. div.
TP8304
REC: PAL COLOUR BAR SIGNAL
1V/20μsec. div.
FL8305 5.06MHz
Q8308 Q8309 Q8317
BUFFER
R8386
COMB.
DL8302
2H DL
IC8301-(1)
REC: PAL COLOUR BAR SIGNAL
0.1V/20μsec. div.
BURST GATE PULSE
Q8336
L8306 C8326, C8327
DELAY
Q8304
TP8306
REC: PAL COLOUR BAR SIGNAL
5V/20μsec. div.
BURST SIGNAL
KILLER PHASE COMPARATOR
KILLER AMP
D8319
4.433619MHz
APC PHASE COMPARATOR
(4.433619MHz)
VCO
REC ON
IC8304
Q8313, D8307, D8308
OFF/REC
Q3001-C Ⓗ
X8303
C8387
APC 2
REC Ⓗ Q3001-Ⓒ
TP8302
R8453
TP8316
D8304
(4.435574MHz)
BALANCED MODULATOR ②
PLAY ON
IC8303
X8302
C8348
APC 1
PLAY Ⓛ Q3001-Ⓒ
TP8311
REC: PAL COLOUR BAR SIGNAL
0.5V/20μsec. div.
Q8310
R8337
AFC
C8330
C8331
HSS OUT
P8302
ROTARY SW
WHITE CLIP
C8322
SYNC. SEP.
HORIZONTAL DRIVE SIGNAL GATE
AFC PHASE COMPARATOR
2.50MHz VCO
1/4 RING DIVIDER
0° 90° 180° 270°
PHASE SELECT
OUTPUT AMP
1/40
RING COUNTER
IC8302 (AFC AND PHASE ROTATION)
D8310
REC Ⓗ Q3001 Ⓒ
VIDEO OUT 8PIN
P3004
Q3032, Q3033
TP3019
VIDEO LINE OUT
Q3030, Q3031
SS V PULSE
P3007
EE Ⓗ
P3003
EE
VV
CLAMP MUTING
MIX
NOISE CANCELL
C3125
LIMITER INVERTER
H.P.F.
TP3019
REC: PAL COLOUR BAR SIGNAL
1V/20μsec. div.
IC3006 1/2
(LUMINANCE P.B. PROCESS)
B/W
COLOUR
FL3004 0~4MHz
SMEAR COMP.
R3158
PIC.CTL
R3163
P.B. Y
TP3021
FL3003 0~5MHz
Q3025, C3105 C3106, R3155
FREQUENCY CONTROL
Q3026
R3122
LIMITER BAL. 1
IC3005
SUB LIMITER
Q3021
R3145
R3147
LIMITER BAL.2
Q3024
Q3022, Q3023, C3094, C3095, C3096
L3031, C3090, R3126
TP8306
TP3017
FM DEMODULATOR
LIMITER
1H DELAYED VIDEO (RF)
DL3001
1H DELAY
DROP OUT DETECTOR
GATE AMP
MIX AMP
TP3016
PLAY: PAL COLOUR BAR SIGNAL
1V/10msec. div.
R3110
L3027, C3085
COLOUR TRAP.
Q3020
Q3018, L3025, C3084, C3169, R3104, R3105, R3253
PHASE COMP.
Q3017, L3024 C3083, R3102
Q3016
TP3020
Q3019
D8317-K Ⓗ
Q8312, X8301
OSC
(4.433619MHz)
C8343
Q8311

OCK DIAGRAM


IC3001
(LUMINANCE REC. PROCESS)
Q3002
EMPHASIS AMP
EMPHASIS/CLAMP
W/D CLIP
FM MODULATOR
TP3002
TP3003
Q3003
CLIP
REC 12V Q3001-©
R3028
DARK CLIP
R3029
WHITE CLIP
C3023
SYNC. FREQ.
FM
R3039
REC-Y
R3042
R3040
Q3006 ON/REC PLAY
REC PLAY Ⓗ P3003-2
TP3004
TP3005
L3006,L3007
C3030,C3031
H.P.F.
COLOUR (MORE THAN 700KHz)
Q3004,Q3005
COLOUR
B/W
COLOUR Ⓗ
Q3007
MIX AMP
Q3008,Q3009
AMP
REC PLAY 12V P3003-2
D3007
REC PLAY Ⓗ
R3057
TP3007
Q3011 ON/REC
TP3008
NOR. RF (L)
NOR. RF (R)
Q3012 ON/REC
TP3006
IC3002
(NOR. HEAD AMP)
AMP
HEAD SWITCH
FILTER AMP
R3067
NOR. MIX
L3013,L3040
C3055,C3057
AUDIO TRAP.
P3007
HEAD SW
MAIN VIDEO HEAD (L)
P3008
MAIN VIDEO HEAD (R)
MAIN HEAD CH-1 (L)
MAIN HEAD CH-2 (R)
P3003-1 P.B. Ⓗ
Q3010 ON/P.B.
R3069
NOR. LEV
D3001
Q8305,D8303
C. KILLER SW
Q8306,Q8331
C. KILLER SW
TP8305
COLOUR 12V
R3051
REC CHROMA
IC8301
BALANCED MODULATOR ①
TP8003
FL8304 0~700KHz
L.P.F.
FL8303 4.43MHz
B.P.F.
REC AMP
P.B. AMP
REC
P.B.
D3009
TP8301
TP8312
C3128
R3186
P.B. C.
D8302
REC PLAY Ⓗ Q3001-C
FL8305 5.06MHz
B.P.F.
TP8304
Q8308 Q8309 Q8317
BUFFER
R8386
COMB.
DL8302
2H DL
Q8304
BUFFER
R8337
AFC
C8330
C8331
C8322
SYNC. SEP.
HORIZONTAL DRIVE SIGNAL GATE
AFC PHASE COMPARATOR
2.50MHz VCO
1/4 RING DIVIDER
0°
90°
180°
270°
PHASE SELECT
OUTPUT AMP
1/40
RING COUNTER
IC8302 (AFC AND PHASE ROTATION)
D8310
REC Ⓗ Q3001-©
TP8306
BURST SIGNAL
KILLER PHASE COMPARATOR
KILLER AMP
D8319
4.433619MHz
APC PHASE COMPARATOR
(4.433619MHz)
VCO
REC ON
IC8304
Q3001-C Ⓗ
Q8313, Q8307, D8308
OFF/REC
X8303
C8387
APC 2
REC Ⓗ Q3001-©
TP8302
R8453
TP8316
D8304
(4.435574MHz)
PLAY ON
BALANCED MODULATOR ②
IC8303
X8302
C8348
APC 1
TP8311
PLAY Ⓛ Q3001-©
Q8310
BUFFER
TP8310
FL3003 0~5MHz
L.P.F.
Q3025,C3105 C3106,R3155
FREQUENCY CONTROL
BUFFER
Q3026
R3122
LIMITER BAL. 1
SMEAR COMP.
R3163
P.B. Y
R3158
PIC. CTL.
TP3021
TP3017
FM DEMODULATOR
LIMITER
IC3006 1/2
(LUMINANCE P.B. PROCESS)
DROP OUT DETECTOR
GATE AMP
MIX AMP
1H DELAYED VIDEO (RF)
DL3001
1H DELAY
B/W
COLOUR
R3110
L3027, C3085
COLOUR TRAP.
Q3020
BUFFER
Q3018,L3025, C3084,C3169, R3104,R3105,R3253
PHASE COMP.
Q3017,L3024 C3083,R3102
PHASE COMP.
Q3016
BUFFER
TP3020
Q3019
D8317-K Ⓗ
Q8312,X8301
OSC
(4.433619MHz)
Q8311
BUFFER
P8302
OSC OUT (4.43MHz)
C8343
OSC
P3005
RF OUT
FL3004 0~4MHz
L.P.F.
IC3005
Q3021
SUB LIMITER
MIX
Q3024
AMP
Q3022,Q3023, C3094,C3095,C3096
H.P.F.
L3031, C3090,R3126
L.P.F.
R3145
R3147
LIMITER BAL.2
IC3006 1/2
(P.B. PROCESS)
TP3016
AR SIGNAL

TP3004
REC: PAL COLOUR BAR SIGNAL
0.2V/20μsec. div.

TP8301
REC: PAL COLOUR BAR SIGNAL
0.5V/20μsec. div.

UPPER: IC3002-(13)
MIDDLE: IC3002-(9)
LOWER: IC3002-(10)
PLAY: CCIR SIGNAL
0.5V/10msec. div.

IC8301-(14)
REC: PAL COLOUR BAR SIGNAL
0.1V/0.2μsec. div.

TP8306
REC: PAL COLOUR BAR SIGNAL
5V/20μsec. div.

TP8316
PLAY: PAL COLOUR BAR SIGNAL
0.5V/20μsec. div.

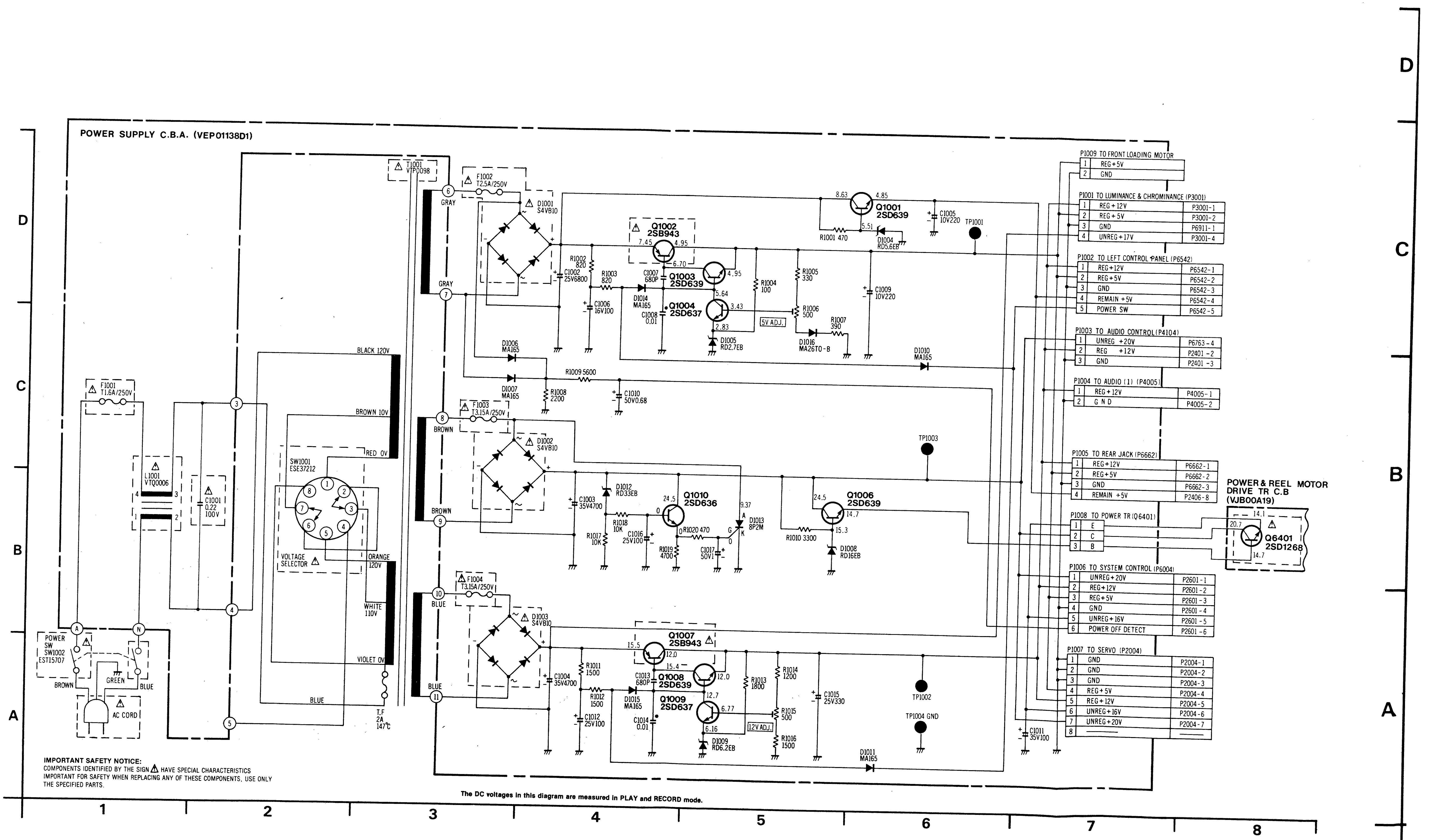
TP8310
REC: PAL COLOUR BAR SIGNAL
1V/20μsec. div.

TP8311
REC: PAL COLOUR BAR SIGNAL
0.5V/20μsec. div.

TP3016
PLAY: PAL COLOUR BAR SIGNAL
1V/10msec. div.

▬▬▬	MAIN LUMINANCE RECORD PATH
▬ ▬ ▬	MAIN CHROMINANCE RECORD PATH
━━━	MAIN LUMINANCE PLAYBACK PATH
- - - -	MAIN CHROMINANCE PLAYBACK PATH

POWER SUPPLY SCHEMATIC DIAGRAM


POWER SUPPLY C.B.A. (VEP01138D1)
T1001 VTP0098
F1001 T1.6A/250V
L1001 VTQ0006
C1001 0.22 100V
SW1001 ESE37212
VOLTAGE SELECTOR
POWER SW SW1002 ESE15707
BROWN
GREEN
BLUE
AC CORD
BLACK 120V
BROWN 10V
RED 0V
ORANGE 120V
WHITE 110V
VIOLET 0V
T.F 2A 147°C
GRAY
F1002 T2.5A/250V
D1001 S4VB10
C1002 25V6800
R1002 820
R1003 820
C1006 16V100
C1007 680P
C1008 0.01
D1014 MA165
Q1002 2SB943
Q1003 2SD639
Q1004 2SD637
D1005 RD2.7EB
R1004 100
R1005 330
R1006 500
5V ADJ.
R1007 390
D1016 MA26T0-B
Q1001 2SD639
R1001 470
D1004 RD5.6EB
C1005 10V220
C1009 10V220
TP1001
D1006 MA165
D1007 MA165
R1008 2200
R1009 5600
C1010 50V0.68
D1010 MA165
F1003 T3.15A/250V
D1002 S4VB10
C1003 35V4700
D1012 RD33EB
R1017 10K
R1018 10K
C1016 25V100
Q1010 2SD636
R1019 4700
R1020 470
C1017 50V1
D1013 8P2M
TP1003
Q1006 2SD639
R1010 3300
D1008 RD16EB
F1004 T3.15A/250V
D1003 S4VB10
C1004 35V4700
R1011 1500
R1012 1500
C1012 25V100
C1013 680P
D1015 MA165
C1014 0.01
Q1007 2SB943
Q1008 2SD639
Q1009 2SD637
D1009 RD6.2EB
R1013 1800
R1014 1200
R1015 500
12V ADJ.
R1016 1500
C1015 25V330
TP1002
TP1004 GND
D1011 MA165
C1011 35V100
8.63
4.85
5.51
7.45
4.95
6.70
5.64
3.43
2.83
24.5
9.37
14.7
15.3
15.5
12.0
15.4
12.7
6.77
6.16
POWER & REEL MOTOR DRIVE TR C.B (VJB00A19)
Q6401 2SD1268
14.1
20.7
14.7
D
C
B
A
1
2
3
4
5
6
7
8
PC

P1009 TO FRONT LOADING MOTOR

1	REG+5V	
2	GND	

P1001 TO LUMINANCE & CHROMINANCE (P3001)

1	REG+12V	P3001-1
2	REG+5V	P3001-2
3	GND	P6911-1
4	UNREG+17V	P3001-4

P1002 TO LEFT CONTROL PANEL (P6542)

1	REG+12V	P6542-1
2	REG+5V	P6542-2
3	GND	P6542-3
4	REMAIN +5V	P6542-4
5	POWER SW	P6542-5

P1003 TO AUDIO CONTROL (P4104)

1	UNREG +20V	P6763-4
2	REG +12V	P2401-2
3	GND	P2401-3

P1004 TO AUDIO (1) (P4005)

1	REG+12V	P4005-1
2	GND	P4005-2

P1005 TO REAR JACK (P6662)

1	REG+12V	P6662-1
2	REG+5V	P6662-2
3	GND	P6662-3
4	REMAIN +5V	P2406-8

P1008 TO POWER TR (Q6401)

1	E
2	C
3	B

P1006 TO SYSTEM CONTROL (P6004)

1	UNREG+20V	P2601-1
2	REG+12V	P2601-2
3	REG+5V	P2601-3
4	GND	P2601-4
5	UNREG+16V	P2601-5
6	POWER OFF DETECT	P2601-6

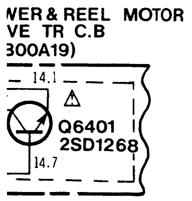
P1007 TO SERVO (P2004)

1	GND	P2004-1
2	GND	P2004-2
3	GND	P2004-3
4	REG+5V	P2004-4
5	REG+12V	P2004-5
6	UNREG+16V	P2004-6
7	UNREG+20V	P2004-7
8	———	———

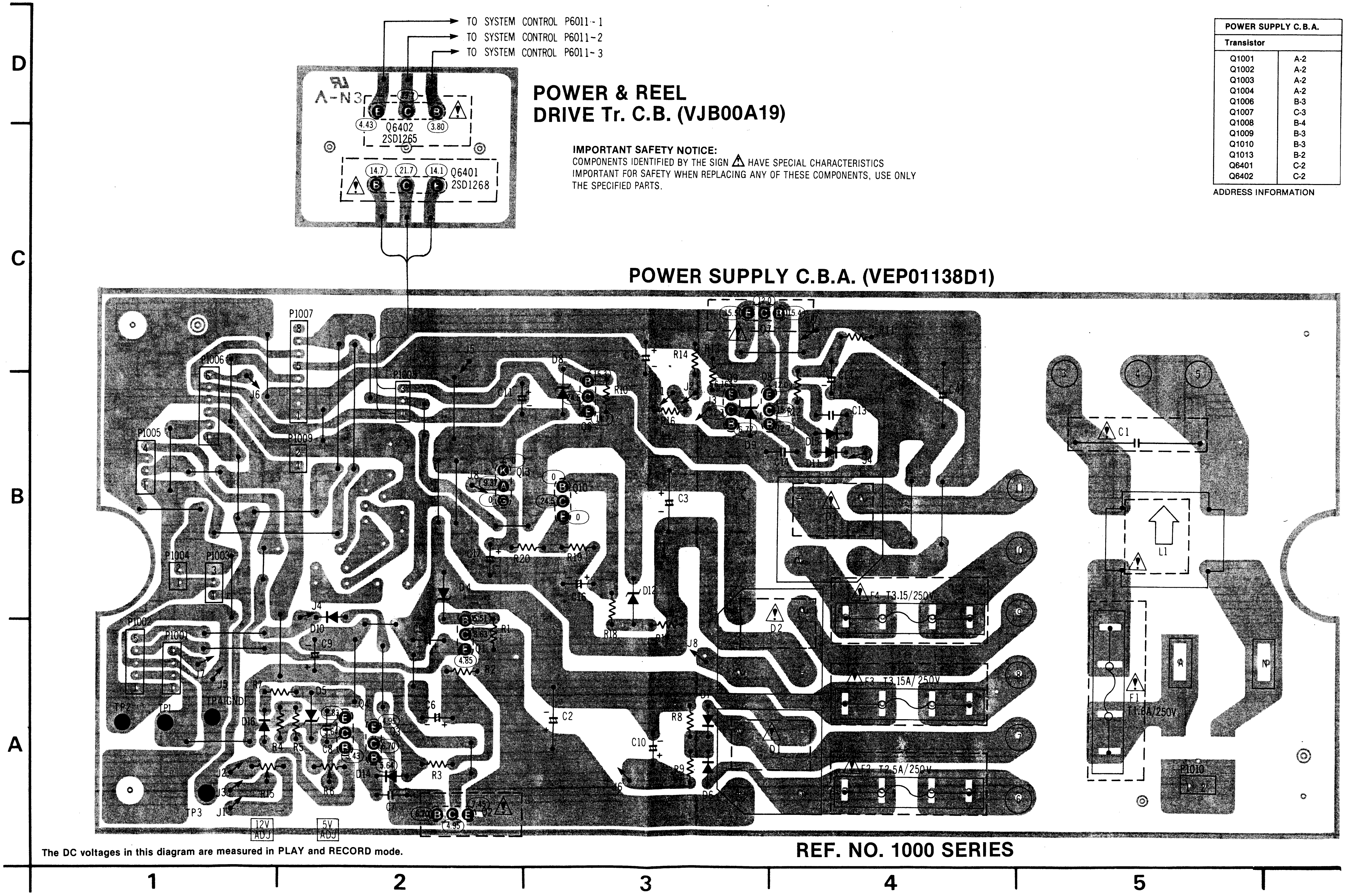
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

The DC voltages in this diagram are measured in PLAY and RECORD mode.

POWER SUPPLY C.B.A. (VEP01138D1)



WER & REEL MOTOR
VE TR C.B
300A19)
14.1
Q6401
2SD1268
14.7



TO SYSTEM CONTROL P6011-1
TO SYSTEM CONTROL P6011-2
TO SYSTEM CONTROL P6011-3
A-N3
Q6402
2SD1265
4.43
3.80
Q6401
2SD1268
14.7
21.7
14.1
POWER & REEL
DRIVE Tr. C.B. (VJB00A19)
POWER SUPPLY C.B.A. (VEP01138D1)
D
C
B
A
1
2
3
4
5
P1007
P1006
P1005
P1009
P1004
P1003
P1002
P1001
P1008
P1010
TP1
TP2
TP3
TP4(GND)
12V ADJ
5V ADJ
F4 T3.15/250V
F3 T3.15A/250V
F2 T2.5A/250V
F1 T1.6A/250V
C1
C2
C3
C9
C10
C11
C13
L1
D1
D2
D4
D5
D6
D8
D10
D11
D12
D16
R1
R2
R3
R4
R5
R6
R8
R9
R10
R14
R16
R18
R19
R20
J1
J2
J3
J4
J5
J6
J7
J8
4.85
4.95
24.5
REF. NO. 1000 SERIES

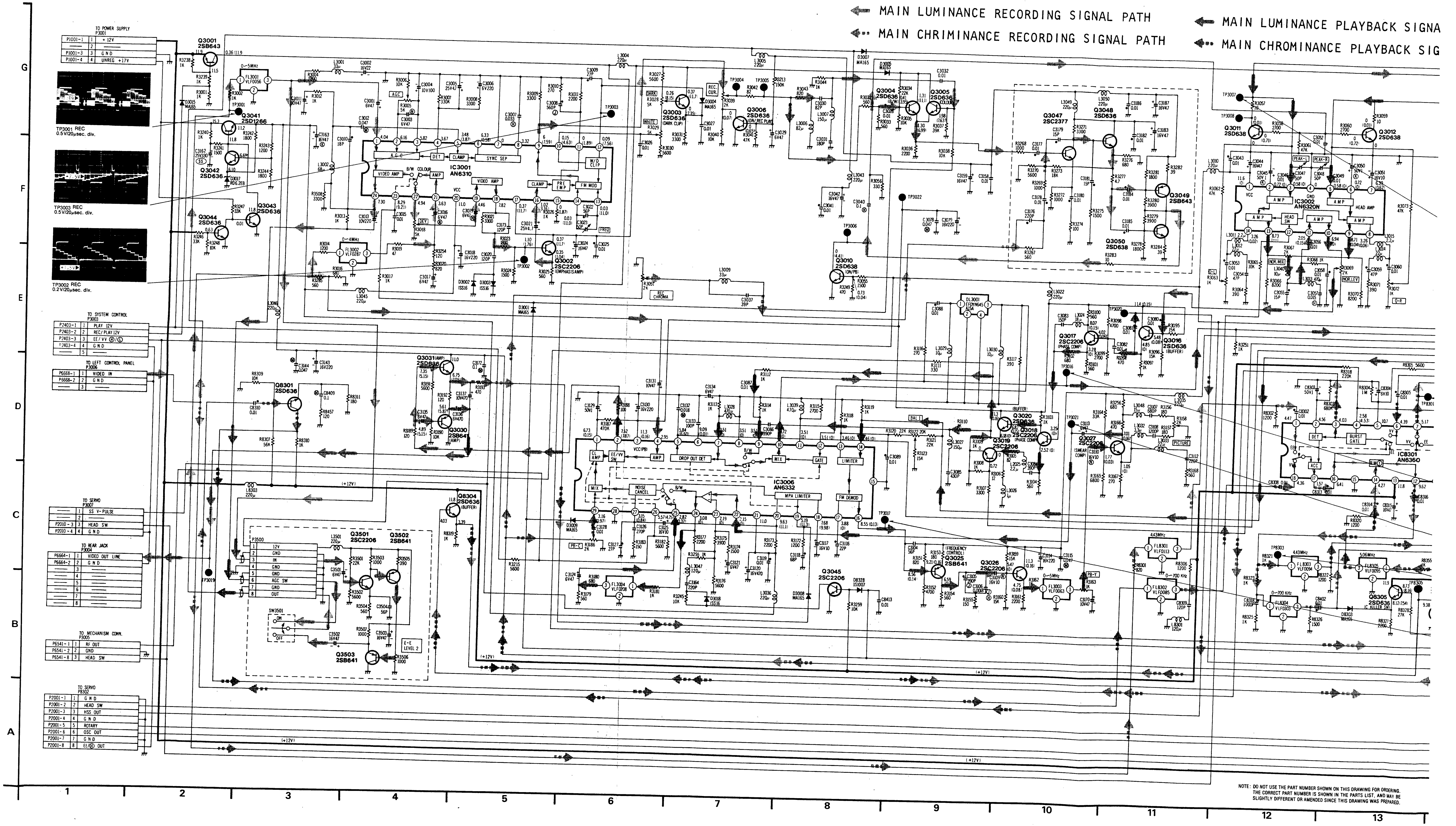
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

POWER SUPPLY C.B.A.	
Transistor	
Q1001	A-2
Q1002	A-2
Q1003	A-2
Q1004	A-2
Q1006	B-3
Q1007	C-3
Q1008	B-4
Q1009	B-3
Q1010	B-3
Q1013	B-2
Q6401	C-2
Q6402	C-2

ADDRESS INFORMATION

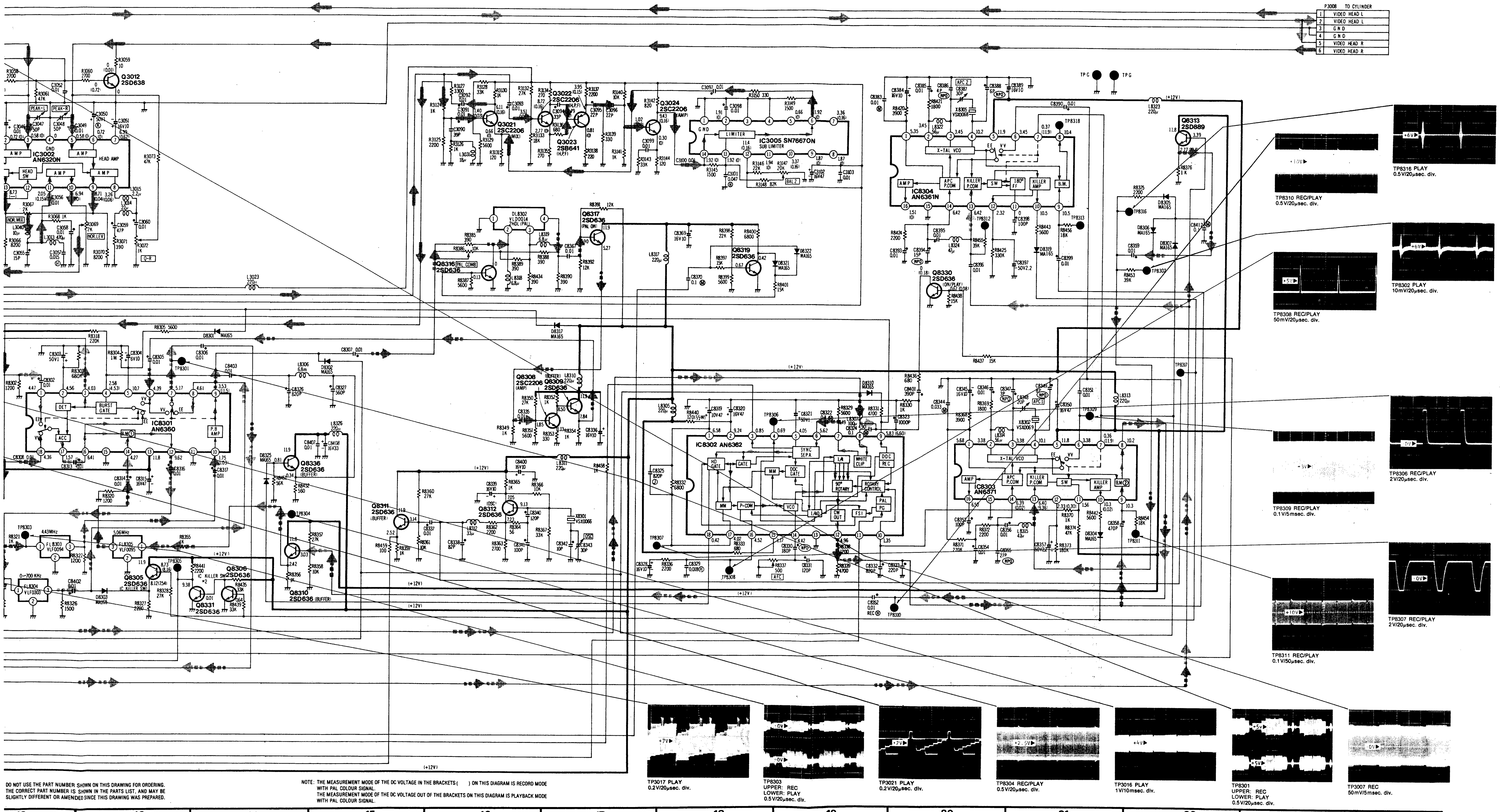
The DC voltages in this diagram are measured in PLAY and RECORD mode.

LUMINANCE & CHROMINANCE SCHEMATIC DIAGRAM


MAIN LUMINANCE RECORDING SIGNAL PATH
MAIN CHRIMINANCE RECORDING SIGNAL PATH
MAIN LUMINANCE PLAYBACK SIGNA
MAIN CHROMINANCE PLAYBACK SIG
TO POWER SUPPLY
P3001
P1001-1 | 1 | + 12V
— | 2 | —
P1001-3 | 3 | GND
P1001-4 | 4 | UNREG +17V
TP3001 REC
0.5V/20μsec. div.
TP3003 REC
0.5V/20μsec. div.
TP3002 REC
0.2V/20μsec. div.
+1.5V
TO SYSTEM CONTROL
P3003
P2403-1 | 1 | PLAY 12V
P2403-2 | 2 | REC/PLAY 12V
P2403-3 | 3 | EE/VV Ⓗ/Ⓛ
P2403-4 | 4 | GND
— | 5 | —
TO LEFT CONTROL PANEL
P3006
P6668-1 | 1 | VIDEO IN
P6668-2 | 2 | GND
— | 3 | —
TO SERVO
P3007
— | 1 | SS V-PULSE
— | 2 | —
P2010-3 | 3 | HEAD SW
P2010-4 | 4 | GND
TO REAR JACK
P3004
P6664-1 | 1 | VIDEO OUT LINE
P6664-2 | 2 | GND
— | 3 | —
— | 4 | —
— | 5 | —
— | 6 | —
— | 7 | —
— | 8 | —
TO MECHANISM CONN.
P3005
P6541-1 | 1 | RF OUT
P6541-2 | 2 | GND
P6541-8 | 3 | HEAD SW
TO SERVO
P8302
P2001-1 | 1 | GND
P2001-2 | 2 | HEAD SW
P2001-3 | 3 | HSS OUT
P2001-4 | 4 | GND
P2001-5 | 5 | ROTARY
P2001-6 | 6 | OSC OUT
P2001-7 | 7 | GND
P2001-8 | 8 | EE/Ⓗ OUT
Q3001 2SB643
Q3041 2SD1266
Q3042 2SD636
Q3043 2SD636
Q3044 2SD636
FL3001 VLF0056
0~5MHz
IC3001 AN6310
AGC
DET
CLAMP
SYNC SEP
VIDEO AMP
B/W COLOUR
AMP
VIDEO AMP
CLAMP
PRE EMP
FM MOD
W/D CLIP
FREQ
FL3002 VLF0287
0~4MHz
Q3002 2SC2206 (EMPHASIS AMP)
TP3001
TP3002
TP3003
TP3004
TP3005
TP3006
TP3007
TP3008
TP3016
TP3017
TP3019
TP3020
TP3021
TP3022
Q3003 2SD636 (DARK CLIP)
DARK
WHITE
REC. CUR.
Q3006 2SD636 (ON/REC PLAY)
Q3004 2SD636 (B/W)
Q3005 2SD636 (LOCK)
Q3010 2SD638 (ON/PB)
REC CHROMA
Q3047 2SC2377
Q3048 2SD636
Q3049 2SB643
Q3050 2SD638
Q3011 2SD638
Q3012 2SD638
IC3002 AN6320N
AMP
HEAD AMP
HEAD SW
PEAK-L
PEAK-R
NOR MIX
NOR.LEV
D-L
D-R
Q8301 2SD636
Q3031 2SD636 (AMP)
Q3030 2SB641 (AMP)
Q8304 2SD636 (BUFFER)
P3500
12V
GND
IN
GND
GND
AGC SW
GND
OUT
SW3501
ON
OFF
E-E LEVEL 2
Q3501 2SC2206
Q3502 2SB641
Q3503 2SB641
(+12V)
IC3006 AN6332
CL AMP
EE/VV SW
VCC(PB)
AMP
DROP OUT DET
B/W
MIX
GATE
LIMITER
MIX
NOISE CANCEL
MPA LIMITER
FM DEMOD
PB-C
PB-Y
DL3001 EFDYN645A254
BAL
Q3017 2SC2206 (PHASE COMP)
Q3016 2SD636 (BUFFER)
Q3020 2SD636 (BUFFER)
Q3019 2SC2206
Q3018 2SC2206 (PHASE COMP)
Q3027 2SC2206 (SMEAR COMP)
PICTURE
Q3045 2SC2206
Q3025 2SB641 (FREQUENCY CONTROL)
Q3026 2SC2206
FL3004 VLF0208
FL3003 VLF0063
0~5MHz
443MHz
FL8301 VLF0113
FL8302 VLF0085
0~700 KHz
FL8303 VLF0098
FL8304 VLF0203
5.06MHz
FL8305 VLF0095
Q8305 2SD636 (C KILLER SW)
TP8303
TP8301
IC8301 AN6360
DET
BURST GATE
ACC
B.MQ
1
2
3
4
5
6
7
8
9
10
11
12
13
A
B
C
D
E
F
G

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

IMINANCE PLAYBACK SIGNAL PATH
IROMINANCE PLAYBACK SIGNAL PATH

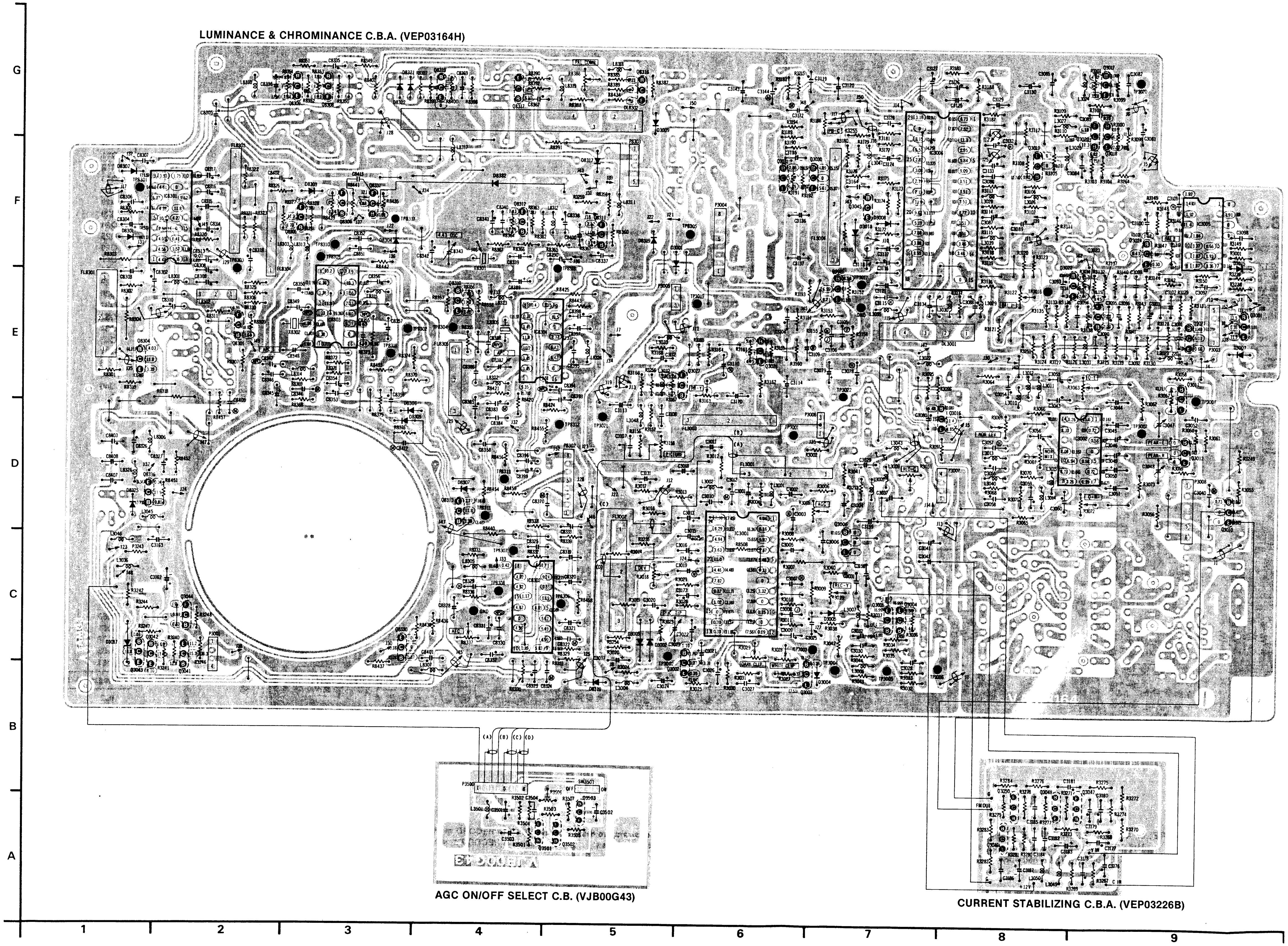

P3008 TO CYLINDER
1 VIDEO HEAD L
2 VIDEO HEAD L
3 GND
4 GND
5 VIDEO HEAD R
6 VIDEO HEAD R
IC3002 AN6320N
HEAD AMP
HEAD SW
AMP
PEAK-L
PEAK-R
NOR.MIX
NOR.LEV
Q3012 2SD638
Q3021 2SC2206
Q3022 2SC2206
Q3023 2SB641
Q3024 2SC2206
IC3005 SN76670N
LIMITER
SUB LIMITER
BALZ
DL8302
Q8316 2SD636
Q8317 2SD636
Q8319 2SD636
IC8304 AN6361N
X-TAL VCO
APC P.COM
KILLER P.COM
KILLER AMP
B.M.
Q8330 2SD636
Q8313 2SD889
IC8301 AN6360
BURST GATE
DET
ACC
P.B AMP
Q8308 2SC2206
Q8309 2SD636
Q8336 2SD636 (BUFFER)
Q8311 2SD636 (BUFFER)
Q8312 2SD636 (OSC)
Q8310 2SD636 (BUFFER)
Q8305 2SD636 (C.KILLER SW)
Q8306 2SD636
Q8331 2SD636
IC8302 AN6362
HD GATE
GATE
SYNC SEPA
MM
DOC GATE
WHITE CLIP
DOC REC
P-COM
VCO
1/4
90° ROTARY
ROTARY CONTROL
CW OUT
FSI
PAL
PG
ATC
IC8303 AN6371
APC P.COM
KILLER P.COM
SW
KILLER AMP
BMC
FL8303 VLF0094
FL8305 VLF0095
FL8304 VLF0303
4.43MHz
5.06MHz
0~700 KHz
(+12V)
TP8301
TP8302
TP8303
TP8304
TP8306
TP8307
TP8308
TP8309
TP8310
TP8311
TP8312
TP8313
TP8316
TP8318
TPG
TP8316 PLAY
0.5V/20μsec. div.
TP8310 REC/PLAY
0.5V/20μsec. div.
TP8302 PLAY
10mV/20μsec. div.
TP8308 REC/PLAY
50mV/20μsec. div.
TP8306 REC/PLAY
2V/20μsec. div.
TP8309 REC/PLAY
0.1V/5msec. div.
TP8307 REC/PLAY
2V/20μsec. div.
TP8311 REC/PLAY
0.1V/50μsec. div.
TP3017 PLAY
0.2V/20μsec. div.
TP8303
UPPER: REC
LOWER: PLAY
0.5V/20μsec. div.
TP3021 PLAY
0.2V/20μsec. div.
TP8304 REC/PLAY
0.5V/20μsec. div.
TP3016 PLAY
1V/10msec. div.
TP8301
UPPER: REC
LOWER: PLAY
0.5V/20μsec. div.
TP3007 REC
50mV/5msec. div.

DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING.
THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE
SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

12 13 14 15 16 17 18 19 20 21 22 23 24

LUMINANCE & CHROMINANCE C.B.A. (VEP03164H) AND SMALL P.C. BOARDS


LUMINANCE & CHROMINANCE C.B.A. (VEP03164H)

AGC ON/OFF SELECT C.B. (VJB00G43)

CURRENT STABILIZING C.B.A. (VEP03226B)

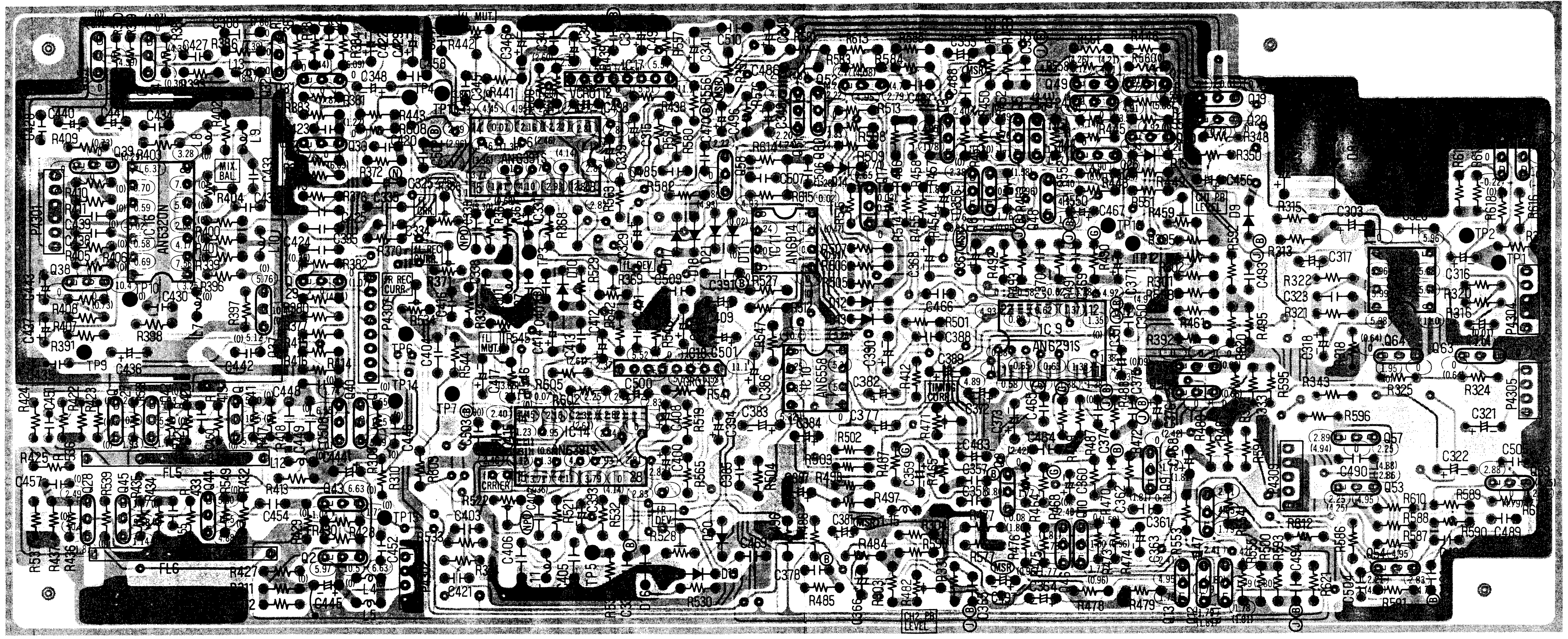
LUMINANCE & CHROMINANCE C.B.A.

Transistor	
Q3001	E-9
Q3002	B-5
Q3003	B-6
Q3004	C-7
Q3005	C-7
Q3006	D-7
Q3010	D-9
Q3011	E-9
Q3012	D-9
Q3016	D-8
Q3017	G-9
Q3018	F-9
Q3019	F-8
Q3020	G-9
Q3021	E-9
Q3022	F-8
Q3023	F-9
Q3024	F-9
Q3025	E-7
Q3026	E-6
Q3027	E-6
Q3030	F-6
Q3031	F-6
Q3041	B-1
Q3042	C-1
Q3043	B-1
Q3044	C-2
Q3045	F-7
Q3047	B-9
Q3048	B-8
Q3049	A-8
Q3050	B-8
Q3501	A-4
Q3502	A-5
Q3503	A-5
Q8301	E-2
Q8303	E-3
Q8304	E-1
Q8305	F-3
Q8306	F-3
Q8308	G-3
Q8309	G-3
Q8310	E-4
Q8311	F-5
Q8312	F-4
Q8313	D-4
Q8316	G-5
Q8317	G-4
Q8319	G-4
Q8330	C-3
Q8331	F-3
Q8336	D-1
Integrated Circuit	
IC3001	C-6
IC3002	D-9
IC3005	F-9
IC3006	F-7
IC8301	F-2
IC8302	C-4
IC8303	E-3
IC8304	E-4

ADDRESS INFORMATION

HD AUDIO C.B.A. (VEP04115B1)

HD AUDIO C.B.A. (VEP04115B1)



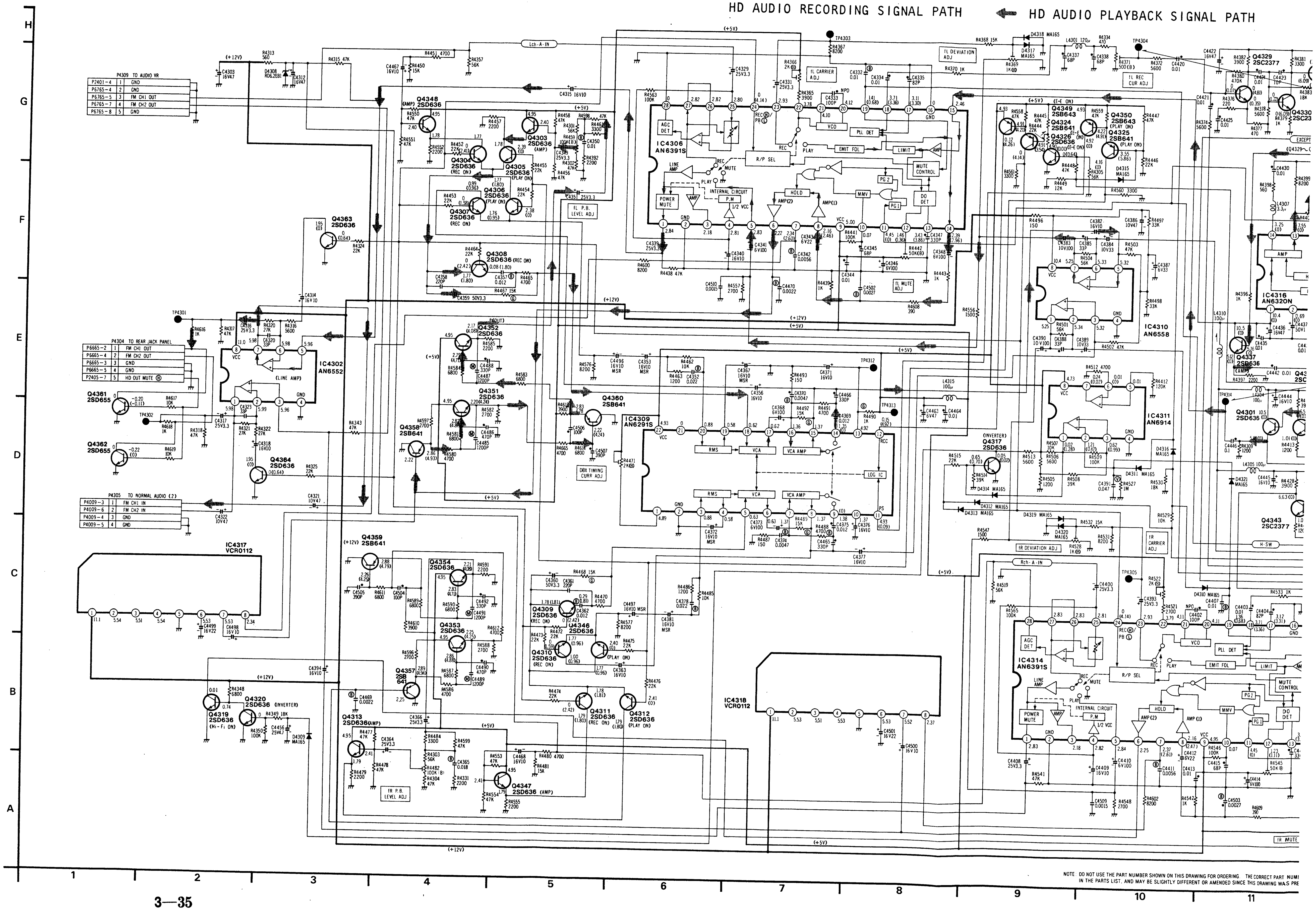
NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

The DC voltages in this diagram are measured in PLAY and RECORD mode.
(The voltages indicated in brackets ( ) are measured in RECORD mode.)

HD AUDIO C.B.A.	
Transistor	
Q1	B-2
Q2	B-2
Q3	C-4
Q4	C-4
Q5	C-4
Q6	C-4
Q7	C-4
Q8	B-4
Q9	B-5
Q10	B-5
Q11	A-5
Q12	A-5
Q13	A-5
Q17	C-4
Q19	C-5
Q20	C-5
Q24	C-5
Q25	C-5
Q26	C-5
Q27	B-1
Q28	B-1
Q29	C-2
Q30	C-2
Q31	C-2
Q32	C-2
Q34	C-1
Q35	C-1
Q37	B-2
Q38	C-1
Q39	C-1
Q40	B-2
Q41	B-2
Q42	B-1
Q43	B-2
Q44	B-2
Q45	B-1
Q46	B-5
Q47	B-5
Q48	C-4
Q49	C-5
Q50	C-5
Q51	C-4
Q52	C-4
Q53	B-6
Q54	B-6
Q55	B-5
Q56	B-5
Q57	B-6
Q58	C-3
Q59	B-6
Q60	C-4
Q61	C-6
Q62	C-6
Q63	B-6
Q64	B-6
Integrated Circuit	
IC2	C-6
IC6	C-3
IC9	B-5
IC10	B-4
IC11	C-4
IC14	B-3
IC16	C-1
IC17	C-3
IC18	B-3

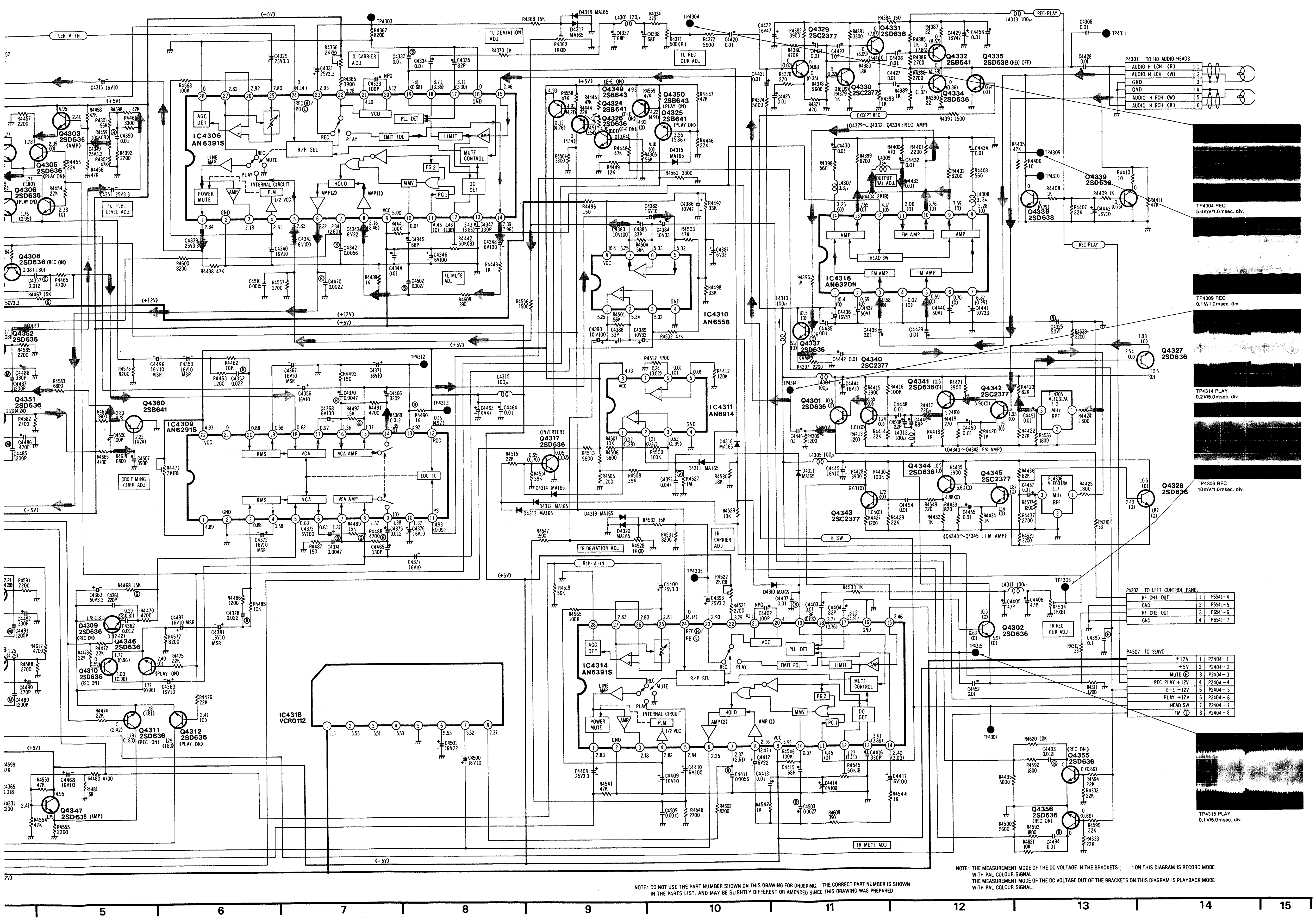
ADDRESS INFORMATION

HD AUDIO SCHEMATIC DIAGRAM


HD AUDIO RECORDING SIGNAL PATH
HD AUDIO PLAYBACK SIGNAL PATH
P4309 TO AUDIO VR
P2401-4 1 GND
P6765-4 2 GND
P6765-3 3 FM CH1 OUT
P6765-7 4 FM CH2 OUT
P6765-8 5 GND
P4304 TO REAR JACK PANEL
P6665-2 1 FM CH1 OUT
P6665-4 2 FM CH2 OUT
P6665-3 3 GND
P6665-5 4 GND
P2405-7 5 HD OUT MUTE
P4305 TO NORMAL AUDIO (2)
P4009-3 1 FM CH1 IN
P4009-6 2 FM CH2 IN
P4009-4 3 GND
P4009-5 4 GND
IC4306 AN6391S
IC4302 AN6552
IC4309 AN6291S
IC4317 VCR0112
IC4318 VCR0112
IC4310 AN6558
IC4311 AN6914
IC4314 AN6391S
IC4316 AN6320N
Q4348 2SD636
Q4303 2SD636
Q4304 2SD636
Q4305 2SD636
Q4306 2SD636
Q4307 2SD636
Q4308 2SD636
Q4363 2SD636
Q4361 2SD655
Q4362 2SD655
Q4364 2SD636
Q4352 2SD636
Q4351 2SD636
Q4358 2SB641
Q4360 2SB641
Q4359 2SB641
Q4354 2SD636
Q4353 2SD636
Q4357 2SB641
Q4313 2SD636
Q4319 2SD636
Q4320 2SD636
Q4309 2SD636
Q4346 2SD636
Q4310 2SD636
Q4311 2SD636
Q4312 2SD636
Q4347 2SD636
Q4349 2SB643
Q4350 2SB643
Q4324 2SB641
Q4325 2SB641
Q4326 2SD636
Q4329 2SC2377
Q4317 2SD636
Q4337 2SD636
Q4301 2SD636
Q4343 2SC2377
FL CARRIER ADJ
FL DEVIATION ADJ
FL REC CUR ADJ
FL P.B. LEVEL ADJ
FL MUTE ADJ
FR P.B. LEVEL ADJ
FR CARRIER ADJ
FR DEVIATION ADJ
DBX TIMING CURR ADJ
Lch-A-IN
Rch-A-IN
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMI
IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PRE

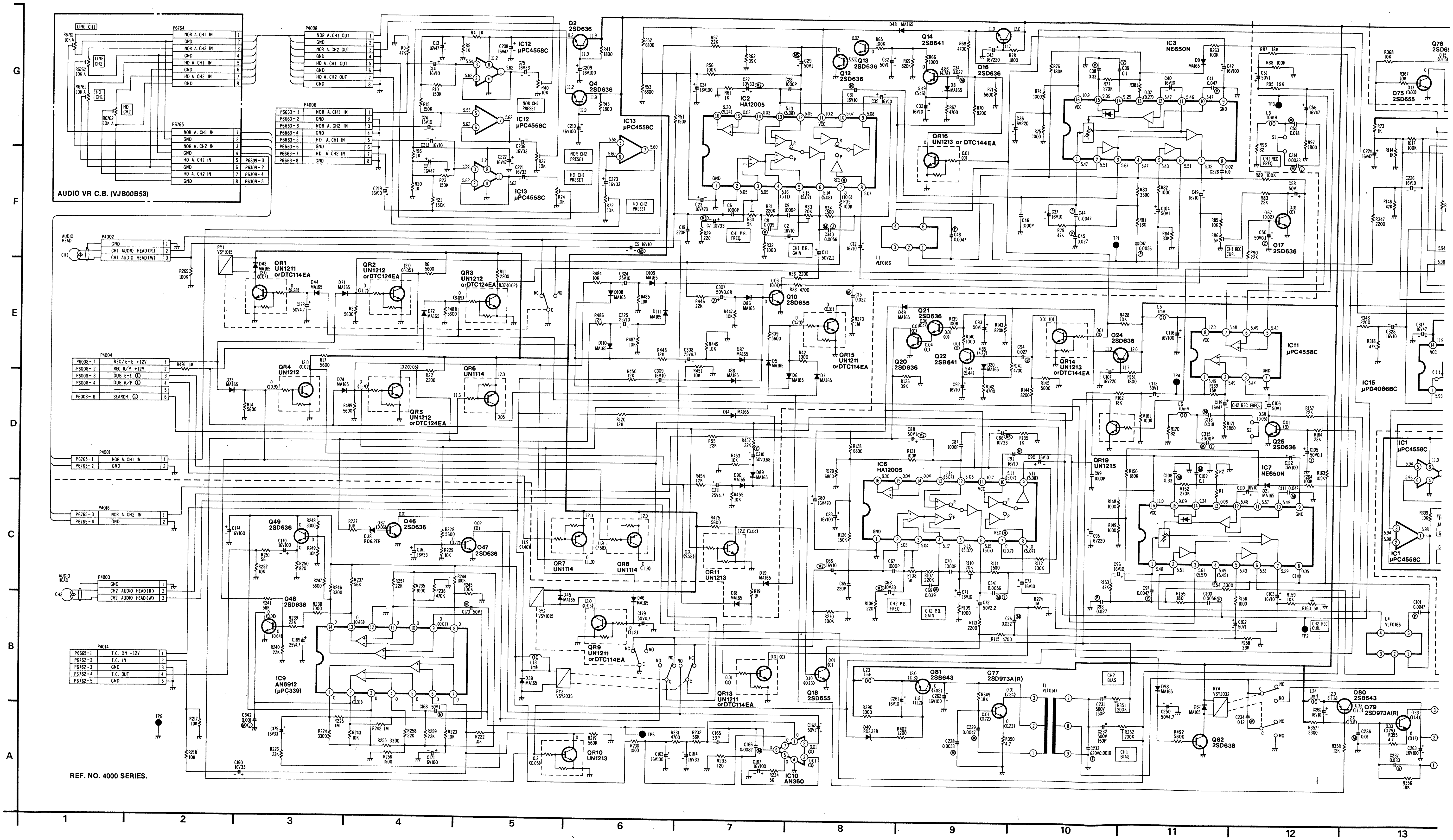
HD AUDIO RECORDING SIGNAL PATH ⟸ HD AUDIO PLAYBACK SIGNAL PATH

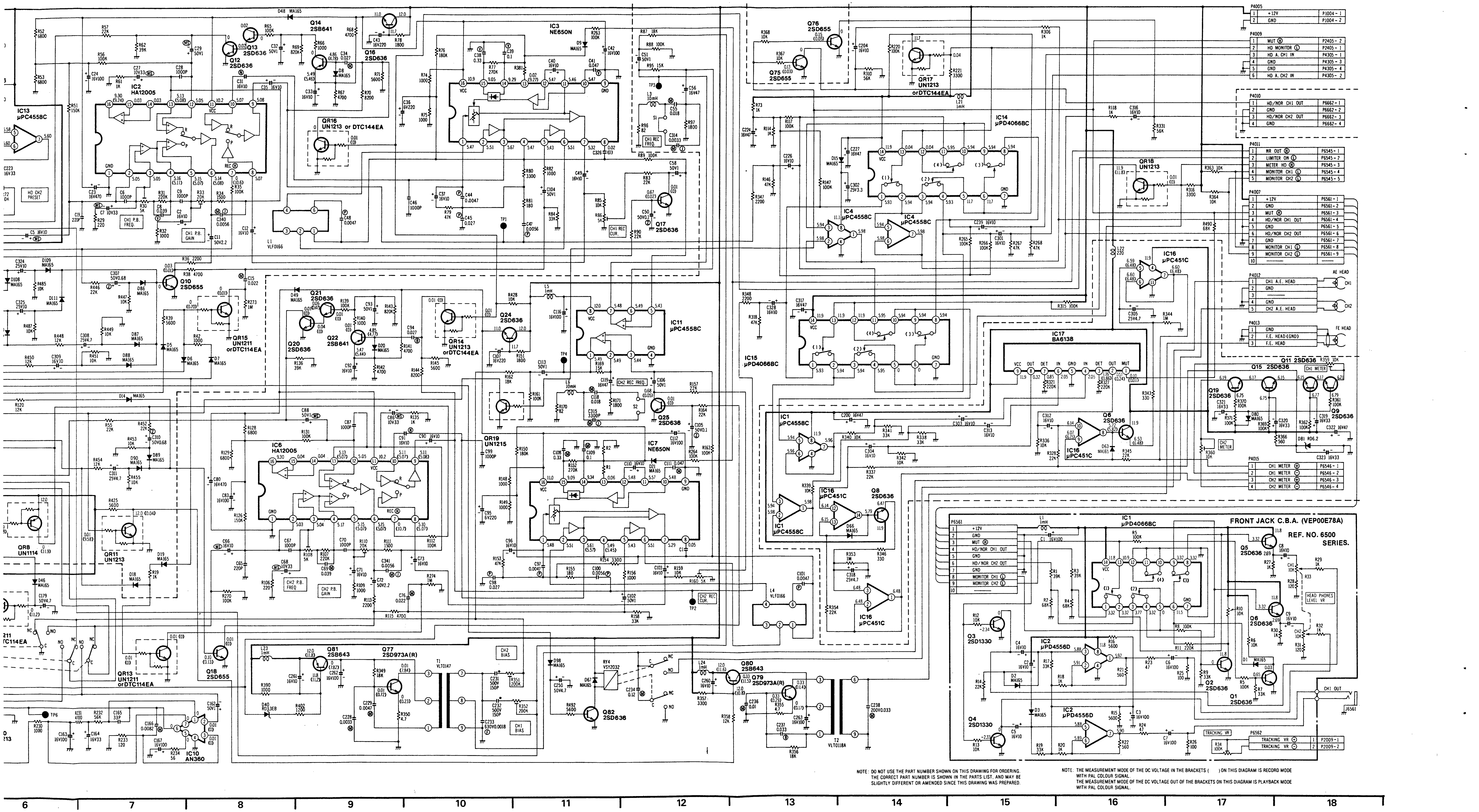

IC4306 AN6391S
IC4309 AN6291S
IC4310 AN6558
IC4311 AN6914
IC4314 AN6391S
IC4316 AN6320N
IC4318 VCR0112
Q4303 2SD636 (AMP)
Q4305 2SD636 (PLAY ON)
Q4306 2SD636 (PLAY ON)
Q4308 2SD636 (REC ON)
Q4352 2SD636
Q4351 2SD636
Q4360 2SB641
Q4309 2SD636 (REC ON)
Q4346 2SD636
Q4310 2SD636 (REC ON)
Q4311 2SD636 (REC ON)
Q4312 2SD636 (PLAY ON)
Q4347 2SD636 (AMP)
Q4349 2SB643
Q4324 2SB641
Q4326 2SD636
Q4350 2SB643
Q4325 2SB641 (PLAY ON)
Q4317 2SD636 (INVERTER)
Q4329 2SC2377
Q4331 2SD636
Q4330 2SC2377
Q4332 2SB641
Q4334 2SD636
Q4335 2SD638 (REC OFF)
Q4339 2SD636
Q4338 2SD638
Q4337 2SD636
Q4340 2SC2377
Q4301 2SD636
Q4341 2SD636
Q4342 2SC2377
Q4343 2SC2377
Q4344 2SD636
Q4345 2SC2377
Q4327 2SD636
Q4328 2SD636
Q4302 2SD636
Q4355 2SD636 (REC ON)
Q4356 2SD636 (REC ON)
(Q4329～Q4332, Q4334 : REC AMP)
(Q4340～Q4342 : FM AMP)
(Q4343～Q4345 : FM AMP)
TP4303
TP4304
TP4305
TP4306
TP4307
TP4309
TP4310
TP4311
TP4312
TP4313
TP4314
TP4315
Lch-A-IN
Rch-A-IN
fL CARRIER ADJ
fL DEVIATION ADJ
fL REC CUR ADJ
fL F.B. LEVEL ADJ
fL MUTE ADJ
fR CARRIER ADJ
fR DEVIATION ADJ
fR REC CUR ADJ
fR MUTE ADJ
DBX TIMING CURR ADJ
OUTPUT BAL ADJ
REC-PLAY
EXCEPT.REC
H-SW
(+5V)
(+12V)
AGC DET
LINE AMP
POWER MUTE
INTERNAL CIRCUIT
P.M
R/P SEL
VCO
PLL DET
EMIT FOL
LIMIT
MUTE CONTROL
HOLD
MMV
PG 1
PG 2
DO DET
AMP(1)
AMP(2)
RMS
VCA
VCA AMP
LOG IC
AMP
FM AMP
HEAD SW
P4301 TO HD AUDIO HEADS
AUDIO H LCH (R) 1
AUDIO H LCH (W) 2
GND 3
GND 4
AUDIO H RCH (W) 5
AUDIO H RCH (R) 6
P4302 TO LEFT CONTROL PANEL
RF CH1 OUT 1 P6541-4
GND 2 P6541-5
RF CH2 OUT 3 P6541-6
GND 4 P6541-7
P4307 TO SERVO
+12V 1 P2404-1
+5V 2 P2404-2
MUTE Ⓗ 3 P2404-3
REC PLAY +12V 4 P2404-4
E-E +12V 5 P2404-5
PLAY +12V 6 P2404-6
HEAD SW 7 P2404-7
FM Ⓛ 8 P2404-8
TP4304 REC
5.0mV/1.0msec. div.
TP4309 REC
0.1V/1.0msec. div.
TP4314 PLAY
0.2V/5.0msec. div.
TP4306 REC
10mV/1.0msec. div.
TP4315 PLAY
0.1V/5.0msec. div.
5
6
7
8
9
10
11
12
13
14
15

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

NORMAL AUDIO (1), (2) SCHEMATIC DIAGRAM


G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13
AUDIO VR C.B. (VJB00B53)
LINE CH1
LINE CH2
HD CH1
HD CH2
P6764
P6765
P4008
P4006
P4002
P4004
P4001
P4016
P4003
P4014
AUDIO HEAD
CH1
CH2
NOR A.CH1 IN
NOR A.CH2 IN
HD A.CH1 IN
HD A.CH2 IN
GND
NOR A.CH1 OUT
NOR A.CH2 OUT
HD A.CH1 OUT
HD A.CH2 OUT
CH1 AUDIO HEAD(R)
CH1 AUDIO HEAD(W)
CH2 AUDIO HEAD(R)
CH2 AUDIO HEAD(W)
REC/E-E +12V
REC R/P +12V
DUB E-E
DUB R/P
SEARCH
T.C. ON +12V
T.C. IN
T.C. OUT
IC12 μPC4558C
IC13 μPC4558C
Q2 2SD636
Q4 2SD636
NOR CH1 PRESET
NOR CH2 PRESET
HD CH1 PRESET
HD CH2 PRESET
IC2 HA12005
Q13 2SD636
Q12 2SD636
Q14 2SB641
Q16 2SD636
QR16 UN1213 or DTC144EA
IC3 NE650N
Q75 2SD655
Q76 2SD6
RY1 VSY1015
QR1 UN1211 or DTC114EA
QR2 UN1212 orDTC124EA
QR3 UN1212 orDTC124EA
QR4 UN1212
QR5 UN1212 orDTC124EA
QR6 UN1114
Q10 2SD655
QR15 UN1211 orDTC114EA
Q21 2SD636
Q20 2SD636
Q22 2SB641
QR14 UN1213 orDTC144EA
Q24 2SD636
IC11 μPC4558C
IC15 μPD4066BC
CH1 P.B. FREQ.
CH1 P.B. GAIN
CH1 REC FREQ.
CH1 REC CUR.
CH2 REC FREQ.
Q17 2SD636
Q25 2SD636
L1 VLF0166
TP1
TP2
TP3
TP4
QR19 UN1215
IC6 HA12005
IC7 NE650N
IC1 μPC4558C
Q49 2SD636
Q46 2SD636
Q47 2SD636
Q48 2SD636
QR7 UN1114
QR8 UN1114
QR11 UN1213
IC9 AN6912 (μPC339)
RY2 VSY1015
RY3 VSY2035
QR9 UN1211 orDTC114EA
QR13 UN1211 orDTC114EA
Q18 2SD655
QR10 UN1213
IC10 AN360
TP6
TPG
CH2 P.B. FREQ
CH2 P.B. GAIN
CH2 REC CUR.
Q81 2SB643
Q77 2SD973A(R)
T1 VLT0147
CH2 BIAS
CH1 BIAS
RY4 VSY2032
Q82 2SD636
Q80 2SB643
Q79 2SD973A(R)
L4 VLF0166
REF. NO. 4000 SERIES.


IC13 μPC4558C
IC2 HA12005
Q12 2SD636
Q13 2SD636
Q14 2SB641
Q16 2SD636
QR16 UN1213 or DTC144EA
IC3 NE650N
L1 VLF0166
Q10 2SD655
QR15 UN1211 orDTC114EA
Q21 2SD636
Q20 2SD636
Q22 2SB641
QR14 UN1213 orDTC144EA
Q24 2SD636
IC11 μPC4558C
Q25 2SD636
Q17 2SD636
IC6 HA12005
QR19 UN1215
IC7 NE650N
QR8 UN1114
QR11 UN1213
QR13 UN1211 orDTC114EA
Q18 2SD655
IC10 AN360
Q81 2SB643
Q77 2SD973A(R)
T1 VLT0147
RY4 VSY2032
Q82 2SD636
Q80 2SB643
Q79 2SD973A(R)
T2 VLT0118A
L4 VLF0166
Q76 2SD655
Q75 2SD655
QR17 UN1213 orDTC144EA
IC14 μPD4066BC
IC4 μPC4558C
IC15 μPD4066BC
IC1 μPC4558C
IC16 μPC451C
IC17 BA6138
Q6 2SD636
Q8 2SD636
QR18 UN1213
CH1 P.B. FREQ.
CH1 P.B. GAIN
CH2 P.B. FREQ
CH2 P.B. GAIN
CH1 REC FREQ.
CH1 REC CUR.
CH2 REC FREQ.
CH2 REC CUR.
CH1 BIAS
CH2 BIAS
CH1 METER
CH2 METER
HD CH2 PRESET
TP1
TP2
TP3
TP4
TP6
P4005
1 +12V P1004-1
2 GND P1004-2
P4009
1 MUT Ⓗ P2405-2
2 HD MONITOR Ⓛ P2405-1
3 HD A. CH1 IN P4305-1
4 GND P4305-3
5 GND P4305-4
6 HD A. CH2 IN P4305-2
P4010
1 HD/NOR CH1 OUT P6662-1
2 GND P6662-2
3 HD/NOR CH2 OUT P6662-3
4 GND P6662-4
P4011
1 NR OUT Ⓗ P6545-1
2 LIMITER ON Ⓛ P6545-2
3 METER HD Ⓗ P6545-3
4 MONITOR CH1 Ⓛ P6545-4
5 MONITOR CH2 Ⓛ P6545-5
P4007
1 +12V P6561-1
2 GND P6561-2
3 MUT Ⓗ P6561-3
4 HD/NOR CH1 OUT P6561-4
5 GND P6561-5
6 HD/NOR CH2 OUT P6561-6
7 GND P6561-7
8 MONITOR CH1 Ⓛ P6561-8
9 MONITOR CH2 Ⓛ P6561-9
10
P4012
1 CH1 A.E. HEAD
2 GND
3
4 GND
5 CH2 A.E. HEAD
AE HEAD
CH1
CH2
P4013
1 GND
2 F.E. HEAD (GND)
3 F.E. HEAD
FE HEAD
Q11 2SD636
Q15 2SD636
Q19 2SD636
Q9 2SD636
P4015
1 CH1 METER ⊕ P6546-1
2 CH1 METER ⊖ P6546-2
3 CH2 METER ⊕ P6546-3
4 CH2 METER ⊖ P6546-4
FRONT JACK C.B.A. (VEP00E78A)
REF. NO. 6500 SERIES.
P6561
1 +12V
2 GND
3 MUT Ⓗ
4 HD/NOR CH1 OUT
5 GND
6 HD/NOR CH2 OUT
7 GND
8 MONITOR CH1 Ⓛ
9 MONITOR CH2 Ⓛ
10
IC1 μPD4066BC
IC2 μPD4556D
Q3 2SD1330
Q4 2SD1330
Q5 2SD636
Q6 2SD636
Q1 2SD636
Q2 2SD636
HEAD PHONES LEVEL VR
CH1 OUT
J6561
TRACKING VR
P6562
TRACKING VR ⊕ 1 P2009-1
TRACKING VR ⊖ 2 P2009-2
6
7
8
9
10
11
12
13
14
15
16
17
18

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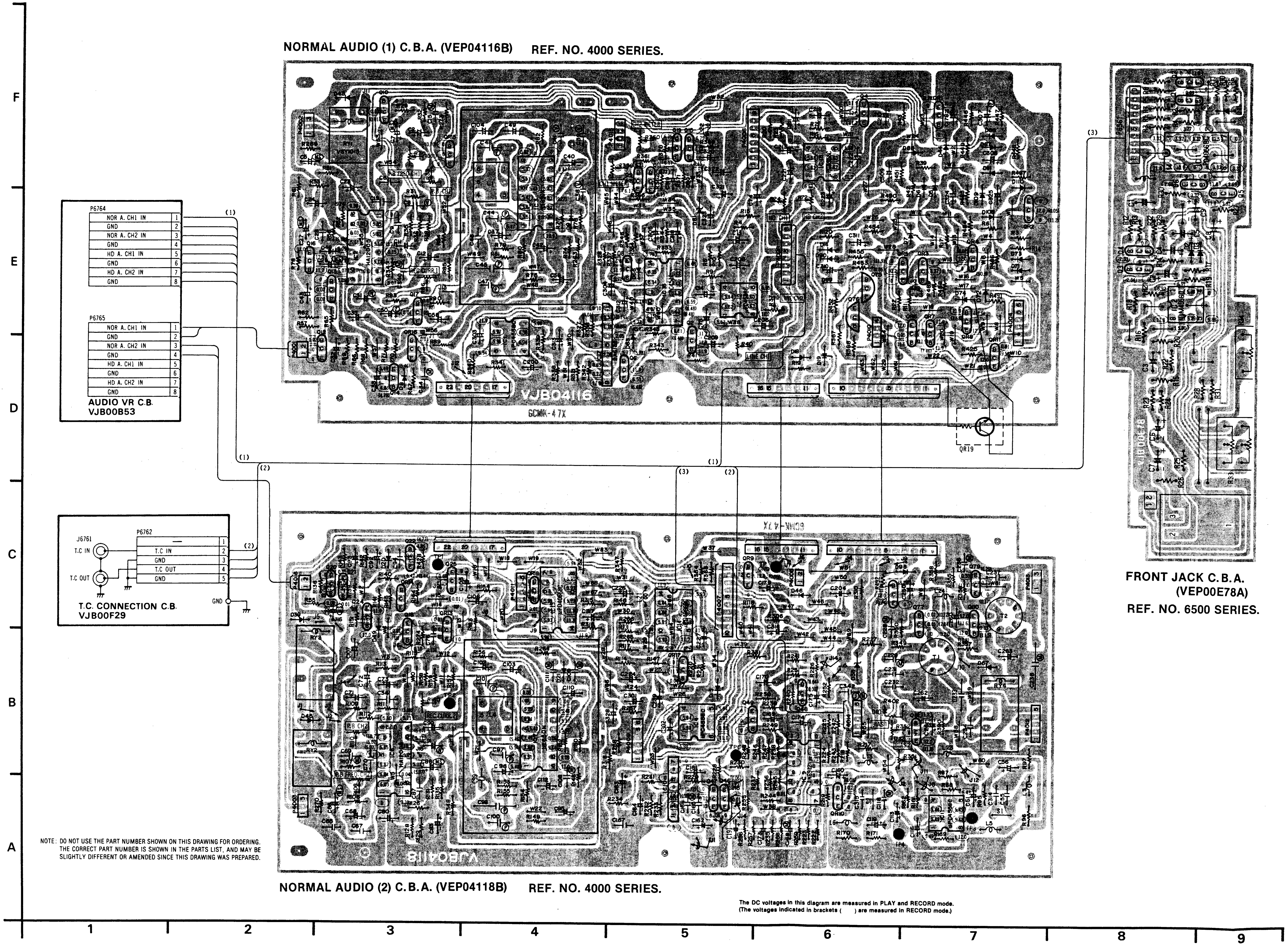
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

NORMAL AUDIO (1) C.B.A. (VEP04116B), NORMAL AUDIO (2) C.B.A. (VEP04118B), FRONT JACK C.B.A. (VEP00E78A) & SMALL P.C. BOARDS


F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
P6764
NOR A. CH1 IN 1
GND 2
NOR A. CH2 IN 3
GND 4
HD A. CH1 IN 5
GND 6
HD A. CH2 IN 7
GND 8
P6765
NOR A. CH1 IN 1
GND 2
NOR A. CH2 IN 3
GND 4
HD A. CH1 IN 5
GND 6
HD A. CH2 IN 7
GND 8
AUDIO VR C.B.
VJB00B53
J6761
T.C IN
T.C OUT
P6762
T.C IN 2
GND 3
T.C OUT 4
GND 5
GND
T.C. CONNECTION C.B.
VJB00F29
(1)
(2)
(3)
VJB04116
GCMK-47X
QR19
VJB04118

NORMAL AUDIO (1) C.B.A. (VEP04116B) REF. NO. 4000 SERIES.

NORMAL AUDIO (2) C.B.A. (VEP04118B) REF. NO. 4000 SERIES.

FRONT JACK C.B.A. (VEP00E78A)
REF. NO. 6500 SERIES.

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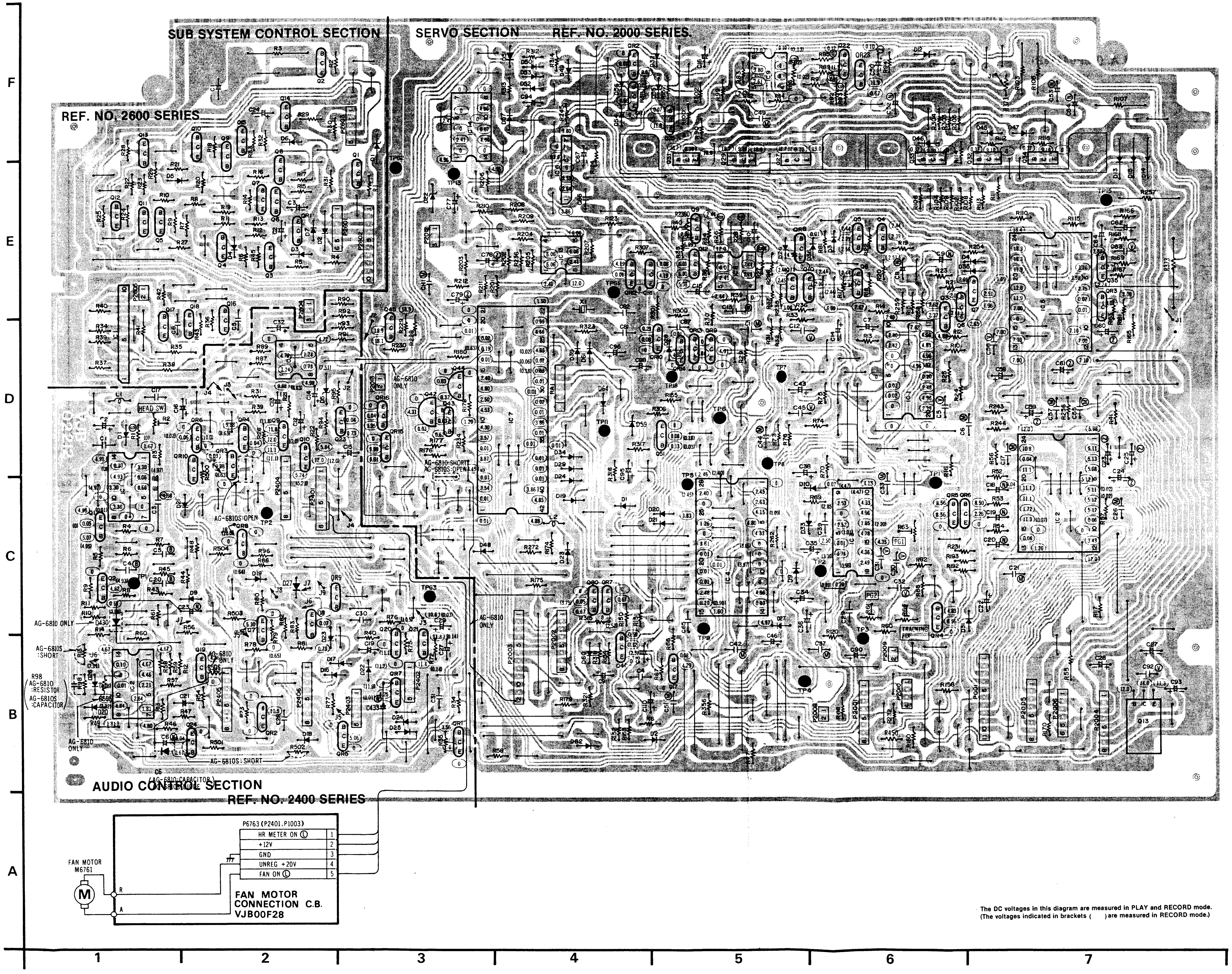
The DC voltages in this diagram are measured in PLAY and RECORD mode.
(The voltages indicated in brackets (   ) are measured in RECORD mode.)

NORMAL AUDIO (I), (II) C.B.A. FRONT JACK C.B.A.	
Transistor	
Q4002	E-5
Q4004	F-6
Q4006	D-5
Q4008	E-5
Q4009	F-5
Q4010	F-3
Q4011	F-5
Q4012	D-3
Q4013	E-3
Q4014	D-3
Q4015	F-5
Q4016	E-2
Q4017	E-3
Q4018	C-3
Q4019	F-5
Q4020	C-3
Q4021	C-3
Q4022	C-3
Q4024	C-3
Q4025	C-3
Q4046	A-5
Q4047	A-5
Q4048	B-6
Q4049	B-5
Q4075	E-6
Q4076	E-6
Q4077	C-7
Q4079	C-7
Q4080	C-7
Q4081	B-7
Q4082	C-6
Q6501	F-8
Q6502	F-8
Q6503	E-8
Q6504	E-8
Q6505	F-9
Q6506	F-8
Transistor & Resistor	
QR4001	F-7
QR4002	E-7
QR4003	E-7
QR4004	E-7
QR4005	E-7
QR4006	E-7
QR4007	E-7
QR4008	E-7
QR4009	C-5
QR4010	A-6
QR4011	D-7
QR4013	C-3
QR4014	C-3
QR4015	F-3
QR4016	D-3
QR4017	B-5
QR4018	C-4
QR4019	D-7
Integrated Circuit	
IC4001	D-4
IC4002	E-3
IC4003	E-4
IC4004	B-5
IC4006	B-3
IC4007	B-4
IC4009	B-6
IC4010	A-5
IC4011	A-7
IC4012	E-5
IC4013	F-6
IC4014	C-5
IC4015	C-4
IC4016	E-5
IC4017	D-4
IC6501	F-8
IC6502	E-8

ADDRESS INFORMATION

SERVO C.B.A. (VEP02212D) & SMALL P.C. BOARD


SUB SYSTEM CONTROL SECTION
SERVO SECTION REF. NO. 2000 SERIES.
REF. NO. 2600 SERIES
AUDIO CONTROL SECTION
REF. NO. 2400 SERIES
AG-6810 ONLY
AG-6810S :SHORT
R98 (AG-6810 :RESISTOR AG-6810S :CAPACITOR)
C6 (AG-6810:CAPACITOR)
AG-6810S:SHORT
AG-6810S:OPEN
AG-6810S:SHORT AG-6810S:OPEN
HEAD SW
TRACKING
FG1
PG1
PG2
TP1
TP2
TP3
TP5
TP6
TP7
TP8
TP9
TP10
TP11
TP13
TP15
TP16
TPG2
TPG3
IC1
IC2
IC4
IC7
Q13
F
E
D
C
B
A
1
2
3
4
5
6
7
P6763 (P2401, P1003)
HR METER ON Ⓛ 1
+12V 2
GND 3
UNREG +20V 4
FAN ON Ⓛ 5
FAN MOTOR M6761
M
R
A
FAN MOTOR CONNECTION C.B. VJB00F28

The DC voltages in this diagram are measured in PLAY and RECORD mode.
(The voltages indicated in brackets ( ) are measured in RECORD mode.)

SERVO C.B.A.

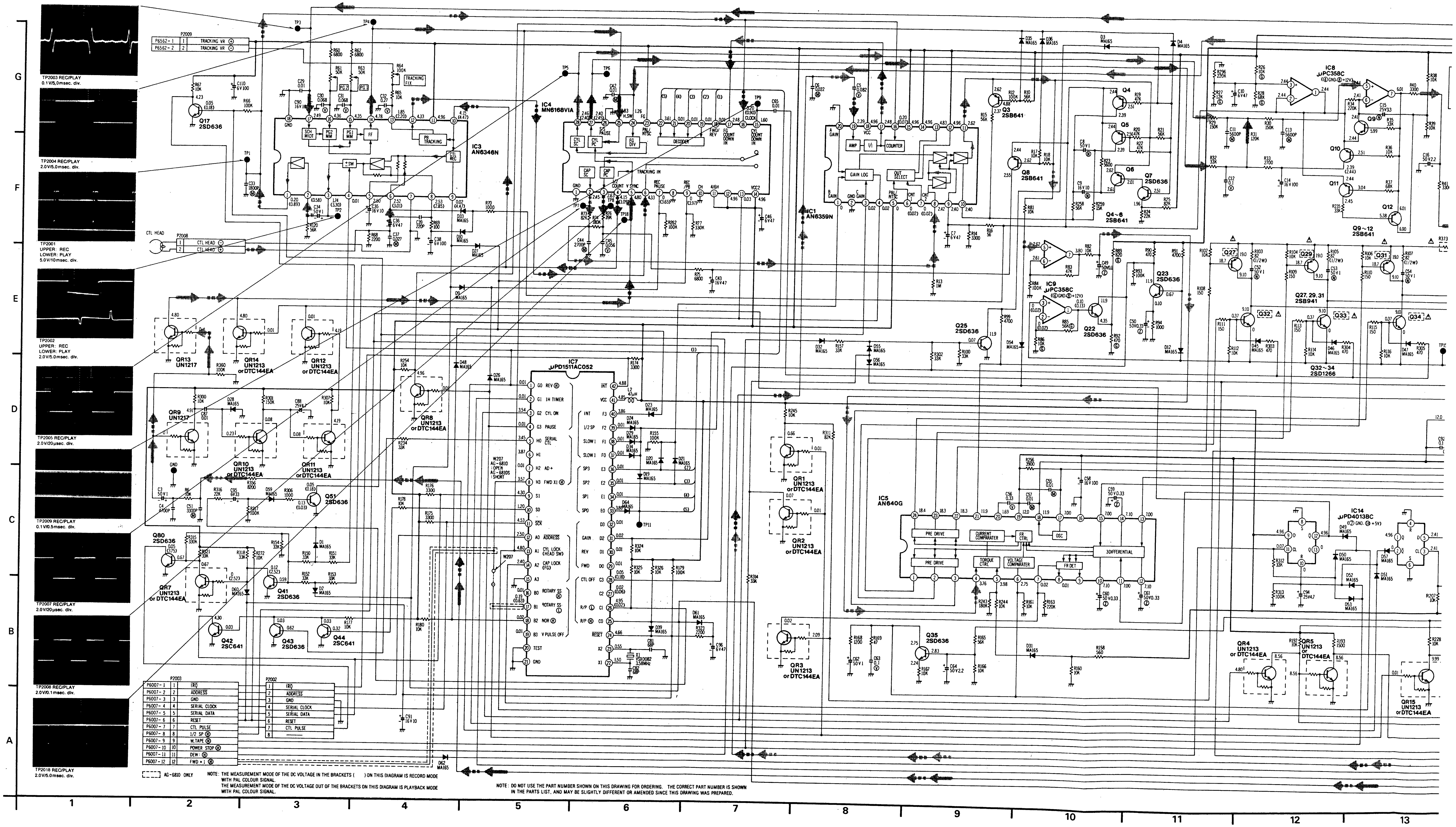
Transistor	
Q2003	E-6
Q2004	E-6
Q2005	E-6
Q2006	E-6
Q2007	E-7
Q2008	E-6
Q2009	E-5
Q2010	E-5
Q2011	E-5
Q2012	E-5
Q2013	B-7
Q2017	B-5
Q2022	F-6
Q2025	F-5
Q2027	F-5
Q2029	F-5
Q2031	F-5
Q2032	F-7
Q2033	F-6
Q2034	F-7
Q2035	E-7
Q2041	B-4
Q2042	D-3
Q2043	D-3
Q2044	D-3
Q2045	E-3
Q2051	D-5
Q2080	C-4
Q2401	C-1
Q2402	C-1
Q2407	C-2
Q2408	C-2
Q2409	D-2
Q2410	D-2
Q2419	B-2
Q2420	B-3
Q2421	B-3
Q2423	D-2
Q2424	B-2
Q2601	E-3
Q2602	F-2
Q2603	E-2
Q2604	E-2
Q2605	E-1
Q2606	E-2
Q2607	E-2
Q2608	F-2
Q2609	F-2
Q2610	F-2
Q2611	E-1
Q2612	E-1
Q2613	F-1
Q2614	F-2
Q2615	F-2
Q2616	E-2
Q2617	E-1
Q2618	E-2

Transistor & Resistor	
QR2001	F-4
QR2002	F-4
QR2003	E-7
QR2004	C-6
QR2005	C-6
QR2006	C-6
QR2007	C-4
QR2008	E-5
QR2009	D-5
QR2010	D-5
QR2011	E-4
QR2012	E-4
QR2013	D-5
QR2014	D-5
QR2015	D-3
QR2016	D-3
QR2023	F-6
QR2401	B-3
QR2402	B-2
QR2403	D-2
QR2404	D-2
QR2405	B-3
QR2406	D-2
QR2407	B-3
QR2408	C-2
QR2409	C-2
QR2410	D-2
QR2601	E-2

Integrated Circuit	
IC2001	D-6
IC2002	C-7
IC2003	C-6
IC2004	C-5
IC2005	E-7
IC2006	E-4
IC2007	D-4
IC2008	E-5
IC2009	F-5
IC2013	E-4
IC2014	F-3
IC2401	C-1
IC2402	B-1
IC2403	D-2
IC2601	D-1

ADDRESS INFORMATION

SERVO & AUDIO CONTROL SCHEMATIC DIAGRAM


CYLINDER SPEED LOOP
CAPSTAN SPEED LOOP
CYLINDER PHASE LOOP
TP2003 REC/PLAY 0.1V/5.0msec. div.
TP2004 REC/PLAY 2.0V/5.0msec. div.
TP2001 UPPER: REC LOWER: PLAY 5.0V/10msec. div.
TP2002 UPPER: REC LOWER: PLAY 2.0V/5.0msec. div.
TP2005 REC/PLAY 2.0V/20μsec. div.
TP2009 REC/PLAY 0.1V/0.5msec. div.
TP2007 REC/PLAY 2.0V/20μsec. div.
TP2008 REC/PLAY 2.0V/0.1msec. div.
TP2018 REC/PLAY 2.0V/5.0msec. div.
P2009
P6562-1 1 TRACKING VR ⊕
P6562-2 2 TRACKING VR ⊖
CTL HEAD
P2008
1 CTL HEAD ⊕
2 CTL HEAD ⊖
IC3 AN6346N
IC4 MN6168VIA
IC1 AN6359N
IC8 μPC358C
IC9 μPC358C
IC7 μPD1511AC052
IC5 AN640G
IC14 μPD4013BC
Q17 2SD636
Q3 2SB641
Q8 2SB641
Q4~6 2SB641
Q7 2SD636
Q9~12 2SB641
Q23 2SD636
Q22 2SD636
Q25 2SD636
Q27, 29, 31 2SB941
Q32~34 2SD1266
QR13 UN1217
QR14 UN1213 or DTC144EA
QR12 UN1213 or DTC144EA
QR8 UN1213 or DTC144EA
QR9 UN1217
QR10 UN1213 or DTC144EA
QR11 UN1213 or DTC144EA
Q51 2SD636
Q80 2SD636
QR7 UN1213 or DTC144EA
Q41 2SD636
Q42 2SC641
Q43 2SD636
Q44 2SC641
QR1 UN1213 or DTC144EA
QR2 UN1213 or DTC144EA
QR3 UN1213 or DTC144EA
Q35 2SD636
QR4 UN1213 or DTC144EA
QR5 UN1213 or DTC144EA
QR15 UN1213 or DTC144EA
X1 VSX0082 3.58MHz
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13

P2003

P6007-1	1	IRQ
P6007-2	2	ADDRESS
P6007-3	3	GND
P6007-4	4	SERIAL CLOCK
P6007-5	5	SERIAL DATA
P6007-6	6	RESET
P6007-7	7	CTL PULSE
P6007-8	8	1/2 SP Ⓗ
P6007-9	9	W.TAPE Ⓗ
P6007-10	10	POWER STOP Ⓗ
P6007-11	11	DEW: Ⓗ
P6007-12	12	FWD ×1 Ⓗ

P2002

1	IRQ
2	ADDRESS
3	GND
4	SERIAL CLOCK
5	SERIAL DATA
6	RESET
7	CTL PULSE
8	———

[- - -] AG-6810 ONLY

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

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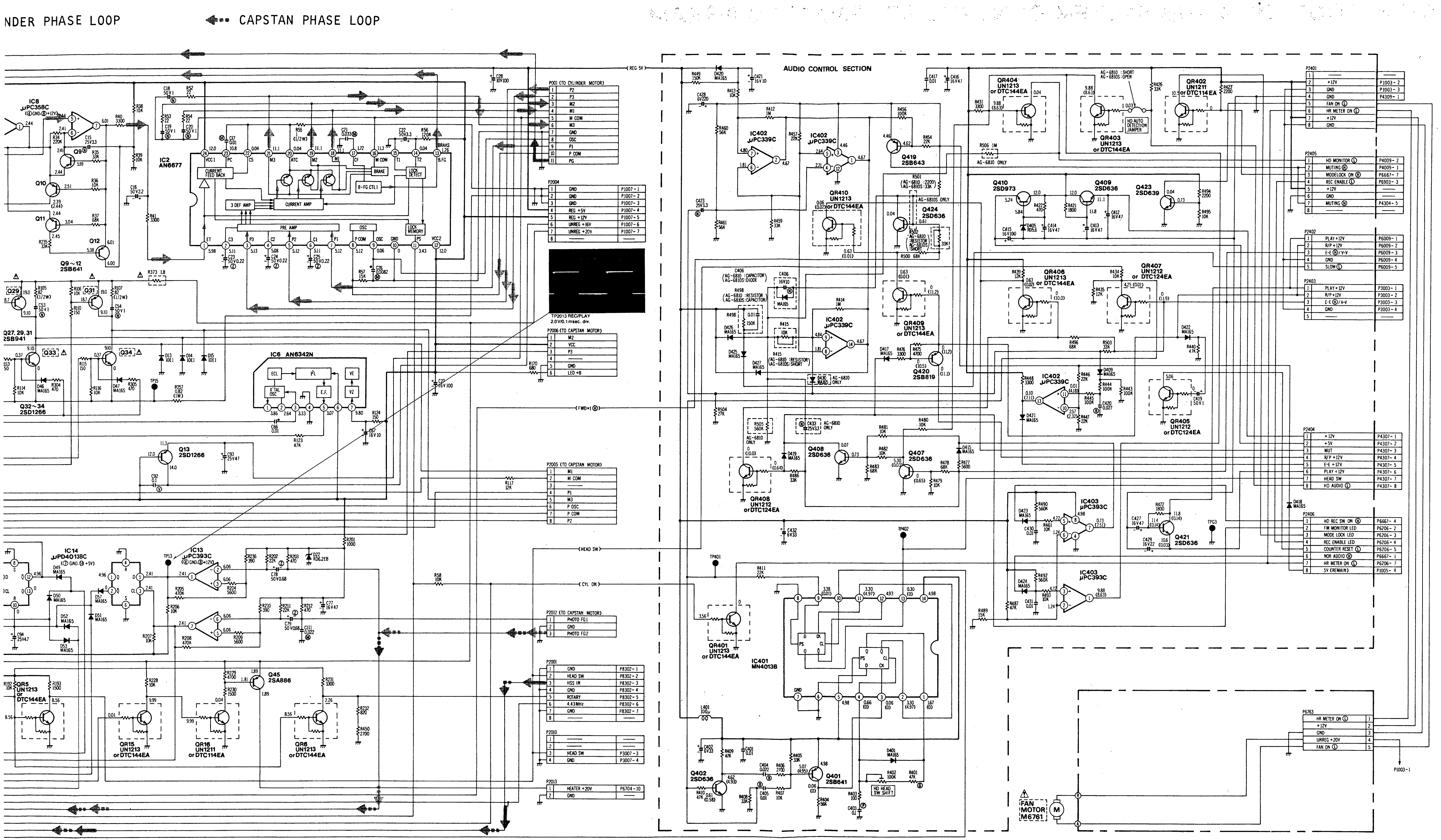
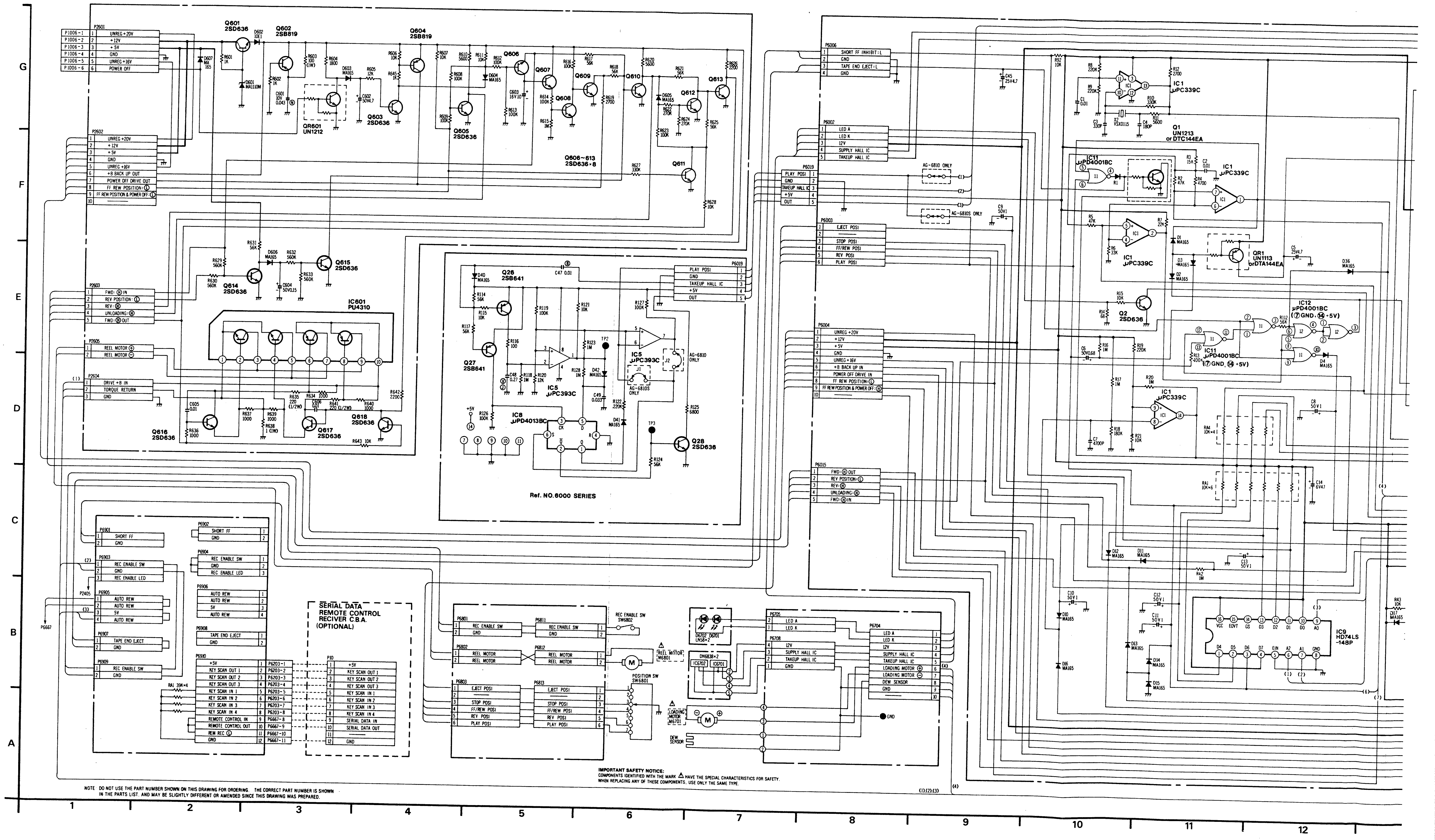

NDER PHASE LOOP
CAPSTAN PHASE LOOP
AUDIO CONTROL SECTION
IC8 μPC358C
IC2 AN6677
IC6 AN6342N
IC13 μPC393C
IC14 μPD4013BC
IC401 MN4013B
IC402 μPC339C
IC403 μPC393C
Q9~12 2SB641
Q13 2SD1266
Q27, 29, 31 2SB941
Q32~34 2SD1266
Q45 2SA886
QR5 UN1213 or DTC144EA
QR15 UN1213 or DTC144EA
QR16 UN1211 or DTC114EA
QR6 UN1213 or DTC144EA
Q401 2SB641
Q402 2SD636
QR401 UN1213 or DTC144EA
Q407 2SD636
Q408 2SD636
QR408 UN1212 or DTC124EA
Q409 2SD636
Q410 2SD973
QR409 UN1213 or DTC144EA
QR410 UN1213 or DTC144EA
Q419 2SB643
Q420 2SB819
Q421 2SD636
Q423 2SD639
Q424 2SD636
QR402 UN1211 or DTC114EA
QR403 UN1213 or DTC144EA
QR404 UN1213 or DTC144EA
QR405 UN1212 or DTC124EA
QR406 UN1213 or DTC144EA
QR407 UN1212 or DTC124EA
TP2013 REC/PLAY 2.0V/0.1msec. div.
P001 (TO CYLINDER MOTOR)
1 P2
2 P3
3 M2
4 M1
5 M COM
6 M3
7 GND
8 OSC
9 P1
10 P COM
11 PG
P2004
1 GND P1007-1
2 GND P1007-2
3 GND P1007-3
4 REG +5V P1007-4
5 REG +12V P1007-5
6 UNREG +16V P1007-6
7 UNREG +20V P1007-7
8 — —
P2006 (TO CAPSTAN MOTOR)
1 M2
2 VCC
3 P3
4 —
5 GND
6 LED +B
P2005 (TO CAPSTAN MOTOR)
1 M1
2 M COM
3 —
4 P1
5 M3
6 P OSC
7 P COM
8 P2
P2012 (TO CAPSTAN MOTOR)
1 PHOTO FG1
2 GND
3 PHOTO FG2
P2001
1 GND P8302-1
2 HEAD SW P8302-2
3 HSS IN P8302-3
4 GND P8302-4
5 ROTARY P8302-5
6 4.43MHz P8302-6
7 GND P8302-7
8 — —
P2010
1 — —
2 — —
3 HEAD SW P3007-3
4 GND P3007-4
P2013
1 HEATER +20V P6704-10
2 GND —
(REG 5V)
(FWD=H)
(HEAD SW)
(CYL ON)
AG-6810 : SHORT
AG-6810S : OPEN
HD AUTO DETECTION JAMPER
AG-6810 ONLY
HD HEAD SW SHIFT
P2401
1 — —
2 +12V P1003-2
3 GND P1003-3
4 GND P4309-1
5 FAN ON Ⓛ
6 HR METER ON Ⓛ
7 +12V
8 GND
P2405
1 HD MONITOR Ⓛ P4009-2
2 MUTING Ⓗ P4009-1
3 MODELOCK ON Ⓗ P6667-7
4 REC ENABLE Ⓛ P6903-3
5 +12V —
6 GND —
7 MUTING Ⓗ P4304-5
8 — —
P2402
1 PLAY +12V P6009-1
2 R/P +12V P6009-2
3 E-E Ⓗ/V-V P6009-3
4 GND P6009-4
5 SLOW Ⓛ P6009-5
P2403
1 PLAY +12V P3003-1
2 R/P +12V P3003-2
3 E-E Ⓗ/V-V P3003-3
4 GND P3003-4
5 — —
P2404
1 +12V P4307-1
2 +5V P4307-2
3 MUT P4307-3
4 R/P +12V P4307-4
5 E-E +12V P4307-5
6 PLAY +12V P4307-6
7 HEAD SW P4307-7
8 HD AUDIO Ⓛ P4307-8
P2406
1 HD REC SW ON Ⓗ P6667-4
2 FM MONITOR LED P6206-2
3 MODE LOCK LED P6206-3
4 REC ENABLE LED P6206-4
5 COUNTER RESET Ⓛ P6206-5
6 NOR AUDIO Ⓗ P6667-1
7 HR METER ON Ⓛ P6206-7
8 5V (REMAIN) P1005-4
P6763
HR METER ON Ⓛ 1
+12V 2
GND 3
UNREG +20V 4
FAN ON Ⓛ 5
P1003-1
FAN MOTOR M6761
TP401
TP402
TP403
TP13
TP15

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24

SYSTEM CONTROL & SUB SYSTEM CONTROL SCHEMATIC DIAGRAM


P2601
UNREG +20V
+12V
+5V
GND
UNREG +16V
POWER OFF
Q601 2SD636
Q602 2SB819
Q604 2SB819
Q603 2SD636
Q605 2SD636
QR601 UN1212
Q606~613 2SD636·8
Q611
P2602
POWER OFF DRIVE OUT
FF REW POSITION
P2603
FWD
REV POSITION
REV
UNLOADING
P2605
REEL MOTOR ⊕
REEL MOTOR ⊖
P2604
DRIVE +B IN
TORQUE RETURN
Q614 2SD636
Q615 2SD636
IC601 PU4310
Q616 2SD636
Q617 2SD636
Q618 2SD636
Q26 2SB641
Q27 2SB641
IC5 μPC393C
IC8 μPD4013BC
Q28 2SD636
AG-6810 ONLY
AG-6810S ONLY
P6019
PLAY POSI
TAKEUP HALL IC
OUT
Ref. NO.6000 SERIES
P6901
SHORT FF
P6902
P6903
REC ENABLE SW
REC ENABLE LED
P6904
P6905
AUTO REW
P6906
P6907
TAPE END EJECT
P6908
P6909
P6910
KEY SCAN OUT 1
KEY SCAN IN 1
REMOTE CONTROL IN
REMOTE CONTROL OUT
REM REC
SERIAL DATA REMOTE CONTROL RECIVER C.B.A. (OPTIONAL)
P10
SERIAL DATA IN
SERIAL DATA OUT
P6801
P6811
REC ENABLE SW SW6802
P6802
P6812
REEL MOTOR
REEL MOTOR M6801
P6803
P6813
EJECT POSI
STOP POSI
FF/REW POSI
REV POSI
PLAY POSI
POSITION SW SW6801
LOADING MOTOR M6701
DEW SENSOR
D6702 D6701 LN58×2
DN6838×2
P6705
P6708
SUPPLY HALL IC
TAKEUP HALL IC
P6704
LED A
LED K
LOADING MOTOR ⊕
LOADING MOTOR ⊖
P6006
SHORT FF INHIBIT
TAPE END EJECT
P6002
P6003
P6004
P6015
IC1 μPC339C
Q1 UN1213 or DTC144EA
IC11 μPD4001BC
QR1 UN1113 or DTA144EA
Q2 2SD636
IC12 μPD4001BC
IC9 HD74LS-148P
A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
10
11
12

IMPORTANT SAFETY NOTICE:
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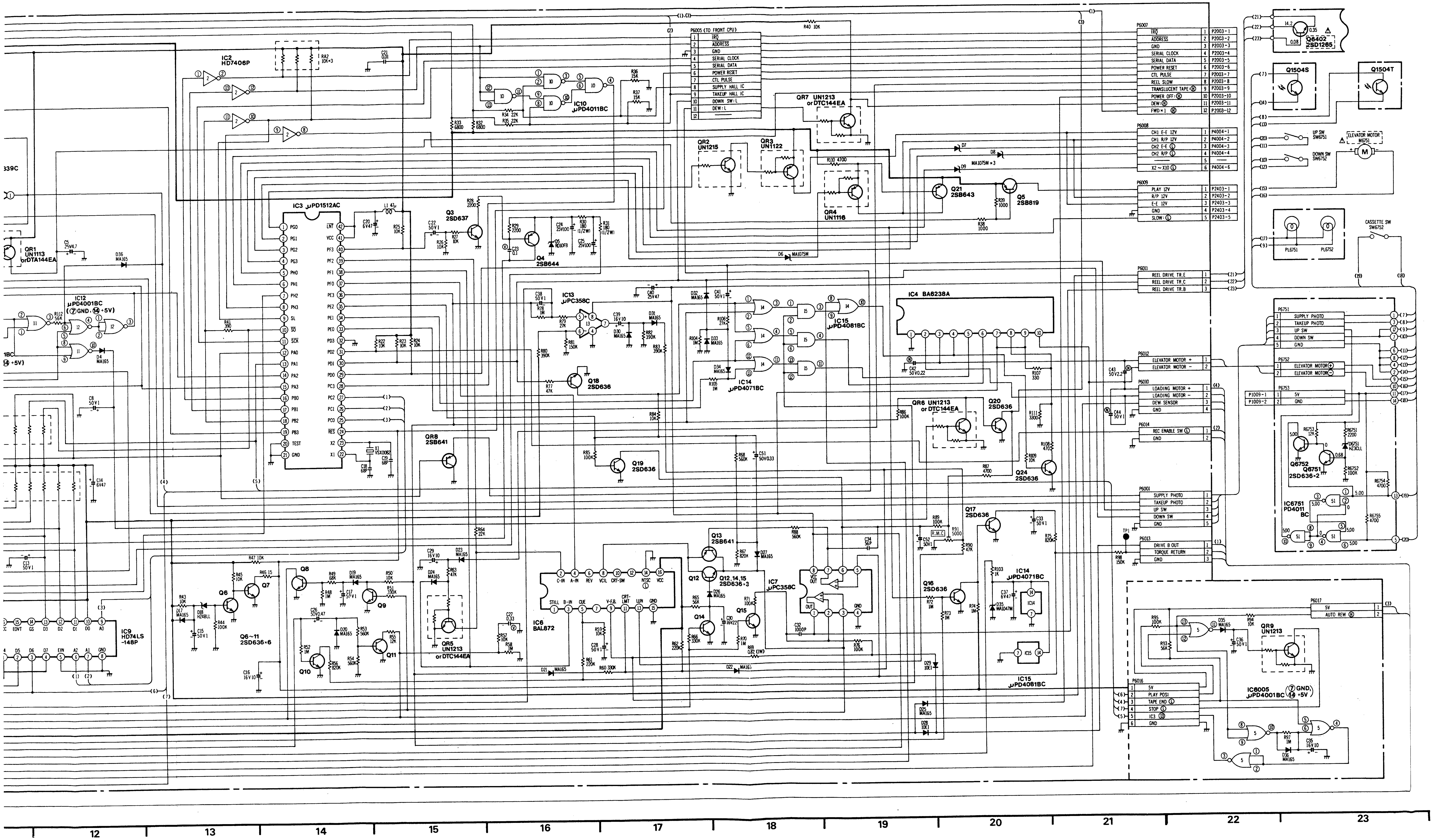
NOTE DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.


IC2 HD7406P
RA2 10K×3
IC10 μPD4011BC
P6005 (TO FRONT CPU)
IRQ
ADDRESS
GND
SERIAL CLOCK
SERIAL DATA
POWER RESET
CTL PULSE
SUPPLY HALL IC
TAKEUP HALL IC
DOWN SW:L
DEW:L
P6007
REEL SLOW
TRANSLUCENT TAPE
POWER OFF
DEW
FWD×1
P6008
CH1 E-E 12V
CH1 R/P 12V
CH2 E-E
CH2 R/P
X2~X10
P6009
PLAY 12V
R/P 12V
E-E 12V
SLOW
Q6402 2SD1285
Q1504S
Q1504T
UP SW SW6751
DOWN SW SW6752
ELEVATOR MOTOR M6751
CASSETTE SW SW6752
PL6751
PL6752
QR7 UN1213 or DTC144EA
QR2 UN1215
QR3 UN1122
QR4 UN1116
Q21 2SB643
Q5 2SB819
D7
D8
D9 MA1075M×3
D6 MA1075M
QR1 UN1113 or DTA144EA
IC3 μPD1512AC
PG0
PG1
PG2
PG3
PH0
PH1
PH2
PH3
SL
SO
SCK
PA0
PA1
PA2
PA3
PB0
PB1
PB2
PB3
TEST
GND
INT
VCC
PF3
PF2
PF1
PF0
PE3
PE2
PE1
PE0
PD3
PD2
PD1
PD0
PC3
PC2
PC1
PC0
RES
X2
X1
X1 VSX0082
L1 47μ
Q3 2SD637
Q4 2SB644
IC12 μPD4001BC (⑦GND, ⑭+5V)
IC13 μPC358C
Q18 2SD636
IC14 μPD4071BC
IC15 μPD4081BC
IC4 BA6238A
P6011
REEL DRIVE TR.E
REEL DRIVE TR.C
REEL DRIVE TR.B
P6012
ELEVATOR MOTOR +
ELEVATOR MOTOR −
P6010
LOADING MOTOR +
LOADING MOTOR −
DEW SENSOR
P6014
REC ENABLE SW
P6001
SUPPLY PHOTO
TAKEUP PHOTO
UP SW
DOWN SW
P6013
DRIVE B OUT
TORQUE RETURN
P6751
P6752
ELEVATOR MOTOR(+)
ELEVATOR MOTOR(−)
P6753
5V
P1009-1
P1009-2
Q6752 Q6751 2SD636×2
IC6751 PD4011BC
QR8 2SB641
Q19 2SD636
QR6 UN1213 or DTC144EA
Q20 2SD636
Q24 2SD636
Q17 2SD636
Q16 2SD636
IC9 HD74LS-148P
Q6~11 2SD636×6
Q6
Q7
Q8
Q9
Q10
Q11
QR5 UN1213 or DTC144EA
IC6 BAL872
C-IN
A-IN
REV
VCIL
CRT-SW
NTSC
VCC
STILL
B-IN
CUE
V-F.B.
CRT-LMT
LLIN
Q13 2SB641
Q12
Q12,14,15 2SD636×3
Q14
Q15
IC7 μPC358C
IC14 μPD4071BC
IC15 μPD4081BC
P6017
AUTO REW
QR9 UN1213
IC6005 μPD4001BC (⑦GND, ⑭+5V)
P6016
PLAY POSI
TAPE END
STOP
IC3
TP1
12
13
14
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SYSTEM CONTROL ICs VOLTAGE CHART

REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	4.97	4.97	4.98	3.10	3.52	3.09	3.52	0	0.26	2.33	2.42	0	2.05	4.92						
PLAY	4.95	4.96	4.96	3.08	3.51	3.08	3.51	0	0.26	2.32	2.41	0	2.04	4.90						
REC	4.94	4.94	4.95	3.08	3.50	3.08	3.50	0	0.26	2.31	2.40	0	2.03	4.89						
F.F	4.94	4.94	4.95	3.08	3.50	3.08	3.50	0	0.26	2.32	2.41	0	2.04	4.90						
REW	4.95	4.94	4.95	3.08	3.50	3.08	3.50	0	0.26	2.32	2.41	0	2.04	4.90						
REF. NO.	IC6002																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	0.05	4.90	1.80	0.05	1.79	0.04	0	0.13	3.74	4.34	0.48	2.58	0.91	4.97						
PLAY	0.05	4.89	1.78	0.05	1.78	0.04	0	0.13	3.74	4.33	0.49	2.55	0.90	4.96						
REC	0.05	4.87	1.78	0.04	1.78	0.04	0	12.0	0.03	4.30	0.48	2.50	0.90	4.94						
F.F	0.05	4.88	1.78	0.05	1.77	0.04	0	0.13	3.72	4.32	0.49	2.50	0.90	4.95						
REW	0.05	4.88	1.78	0.05	1.78	0.04	0	0.13	3.73	4.33	0.49	2.47	0.90	4.95						
REF. NO.	IC6003																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	3.47	4.36	0.02	0.01	0.01	4.57	3.63	0.01	4.34	0.69	4.57	4.93	4.97	0.02	4.38	0.05	0.90	0.49	2.04	0
PLAY	0.02	4.40	5.20	5.52	3.84	4.57	3.62	3.73	4.33	0.68	4.56	4.91	4.96	4.97	4.37	0.05	0.91	0.47	2.04	0
REC	3.44	0.02	0.02	0.02	3.82	4.54	3.61	0.03	4.30	0.68	4.54	4.89	4.94	4.95	4.36	0.05	0.90	0.48	2.03	0
F.F	3.45	4.40	0.02	5.52	3.83	4.57	3.62	3.72	4.31	0.68	4.54	4.89	4.94	4.95	4.35	0.05	0.91	0.48	2.04	0
REW	3.45	4.41	0.02	5.52	3.84	4.57	0.02	3.73	4.32	0.68	4.55	4.90	4.95	4.96	4.36	0.05	0.90	0.48	2.04	0
REF. NO.	IC6003																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	0	1.40	0.58	4.69	4.13	0.14	4.12	0.02	0.02	0.01	0	0	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.23
PLAY	0	1.38	0.57	4.68	4.11	0.13	0.13	4.95	4.96	0.01	0	0	0.02	0.02	0.02	0.02	0.02	3.80	0.02	0.02
REC	0	1.39	0.57	4.67	4.11	0.13	0.13	4.94	4.94	0.01	0	0	3.81	3.80	3.63	3.41	3.79	3.80	3.81	4.93
F.F	0	1.37	0.58	4.68	0.13	0.13	4.09	2.93	4.95	0.01	0	0	0.02	0.02	0.02	0.02	0.02	0.02	3.81	0.25
REW	0	1.38	0.57	4.68	0.13	0.13	4.09	—	4.96	0.01	0	0	0.02	0.02	0.02	0.02	0.02	0.02	3.81	0.23
REF. NO.	IC6003																			
MODE	41	42																		
STOP	4.83	4.83																		
PLAY	4.80	4.80																		
REC	4.80	4.80																		
F.F	4.80	4.80																		
REW	4.79	4.79																		
REF. NO.	IC6004																			
MODE	1	2	3	4	5	6	7	8	9	10										
STOP	0	0.58	0	0	0	0	0	14.2	0	0.58										
PLAY	0	0.58	0.57	0	0	0.04	14.0	14.0	14.0	0.50										
REC	0	0.58	0.57	4.07	4.10	4.10	14.0	10.2	14.0	0.57										
F.F	0	0.57	0.57	0	0	0	14.0	14.0	14.0	0.57										
REW	0	0.57	0.57	0	0	0	14.0	14.0	14.0	0.57										
REF. NO.	IC6006																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	0	0.02	0.02	0.02	0.21	0.01	0.01	0.01	0.08	0.01	0	0	0.99	0	0	11.9				
PLAY	0.03	0.02	3.80	0.02	0.21	0.03	0.03	4.35	4.14	0.03	0.01	0.03	3.73	0	0	11.9				
REC	0.02	3.79	3.80	3.79	0.12	0.01	0	5.75	2.91	0	0.74	0	0.99	0	0	11.9				
F.F	0.02	3.80	0.02	0.02	0.15	3.80	0	9.51	9.64	0.04	0.01	0	0.99	0	0	11.9				
REW	0.02	3.79	0.02	0.02	0.95	0.03	0	9.57	9.71	0.03	0.01	0	0.99	0	0	11.9				
REF. NO.	IC6007																			
MODE	1	2	3	4	5	6	7	8												
STOP	0.36	0.04	0.04	0	0.01	0.06	0	14.2												
PLAY	4.82	2.03	2.02	0	0.21	0.21	4.00	14.0												
REC	3.55	1.43	1.40	0	0.12	0.01	12.8	14.0												
F.F	10.3	10.3	9.56	0	0.04	0.06	12.8	14.0												
REW	10.4	10.4	9.61	0	0.16	0.06	12.8	14.0												
REF. NO.	IC6009																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	4.97	4.89	4.97	4.97	0	4.12	0.13	0	4.13	4.97	4.97	0.61	4.96	0.14	4.13	4.97				
PLAY	4.94	4.87	0	4.95	0	0.13	0.13	0	4.11	4.95	4.94	4.94	4.94	0.14	4.15	4.95				
REC	4.94	4.86	0	4.94	0	0.13	0.13	0	4.11	4.95	4.94	4.94	4.94	0.14	4.15	4.95				
F.F	4.93	4.82	4.94	4.94	0	4.09	0.13	0	0.13	4.94	4.93	4.93	0.62	0.14	4.10	4.94				
REW	4.94	4.82	4.94	4.94	0	4.09	0.13	0	0.13	4.94	4.94	4.94	0.62	0.14	4.10	4.94				
REF. NO.	IC6010																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	2.55	4.20	2.48	2.50	2.47	4.97	0	0.01	2.47	4.97	2.47	2.52	2.51	4.97						
PLAY	4.94	4.20	4.95	4.95	4.95	4.95	0	—	0	4.95	0	4.94	4.94	4.95						
REC	0.06	4.20	4.94	4.94	4.95	0	0	0.01	4.94	—	4.94	0.06	0.06	4.94						
F.F	2.50	2.44	3.54	2.92	3.51	3.45	0	2.48	2.44	3.48	2.49	2.52	2.50	4.94						
REW	2.47	—	3.51	3.30	3.51	3.80	0	—	2.49	3.50	3.21	2.45	2.49	4.94						

REF. NO.	IC6011													
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STOP	0	4.97	0	0	4.96	4.97	0	4.96	4.97	0	0	4.43	3.66	4.97
PLAY	0	4.95	0	0	4.95	0	0	4.94	4.95	0	0	4.40	3.85	4.96
REC	0	4.94	0	0	4.94	0	0	4.94	4.95	0	0	4.40	3.77	4.95
F.F	0	4.94	0	0	4.94	4.93	0	4.93	4.94	0	0	0.37	3.85	4.95
REW	4.94	4.93	0	0	4.93	4.93	0	4.93	4.92	0	4.94	0.37	0.06	4.94
REF. NO.	IC6012													
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STOP	0	0	4.98	0	4.96	0	0	0	0	4.98	4.97	0	0	4.97
PLAY	0	0	4.95	0	4.94	0	0	0	0	4.95	4.95	0	0	4.96
REC	0	0	4.96	0	4.95	0	0	0	0	4.95	4.95	0	0	4.95
F.F	0	0	4.94	0	4.93	0	0	0	0	4.94	4.94	0	0	4.95
REW	0	0	4.94	0	4.92	0	0	0	0	4.95	4.95	0	0	4.95
REF. NO.	IC6013													
MODE	1	2	3	4	5	6	7	8						
STOP	13.0	0.41	0.42	0	0.05	1.38	0	14.2						
PLAY	12.8	0.40	0.41	0	0.04	1.37	0	14.0						
REC	12.8	0.40	0.42	0	0.34	1.37	0	14.0						
F.F	12.8	0.40	0.41	0	0.05	1.37	0	14.0						
REW	12.8	0.41	0.42	0	0.05	1.37	0	14.0						
REF. NO.	IC6014													
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STOP	0.02	0.02	0	0	0.03	0.02	0	0.03	0	0	0	0.02	0.02	0.03
PLAY	0.02	0.02	0	0	0.02	0.02	0	0.03	0	0	0	0.02	0.02	4.10
REC	3.63	3.41	4.10	4.10	3.62	3.80	0	0.03	4.10	4.07	4.10	0.05	3.45	4.10
F.F	0.02	0.02	0	0	0	0.02	0.03	0.05	0	0	0	0.02	0.02	4.10
REW	0.02	0.02	0	0	0.02	0.02	0	0.05	0	0	0	0.02	0.02	4.10
REF. NO.	IC6015													
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STOP	0	4.68	0	0	0	4.68	0	0	0	0	0	4.68	0	4.11
PLAY	0	4.67	0	0	0	4.67	0	0	0	0	0	4.67	0	4.10
REC	4.10	4.67	4.10	4.10	4.10	4.67	0	0	0	0	4.10	4.67	4.10	4.10
F.F	0	4.67	0	0	0	4.67	0	0	0	0	0	4.67	0	4.10
REW	0	4.67	0	0	0	4.67	0	0	0	0	0	4.67	0	4.10

SYSTEM CONTROL TRANSFORMERs VOLTAGE CHART

REF. NO.	Q6001			Q6002			Q6003			Q6004			Q6005			Q6006		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	4.92	0	0	4.37	0.09	0	8.80	−0.30	9.45	2.20	9.31	11.9	11.8	11.2	0	0.03	0.63
PLAY	0	4.89	0	0	0.01	0.09	0	8.73	−0.30	9.37	2.18	9.24	11.9	11.8	11.2	0	0.08	0.63
REC	0	4.89	0	0	4.94	0	0	9.55	0	9.55	0.05	9.55	11.9	11.8	11.2	0	0.03	0.63
F.F	0	4.90	0	0	4.36	0.09	0	8.75	−0.30	9.39	2.18	9.27	11.9	11.8	11.2	0	0.03	0.63
REW	0	4.88	0	0	4.35	0.09	0	8.74	−0.30	9.37	2.17	9.25	11.9	11.8	11.1	0	0.03	0.63
REF. NO.	Q6007			Q6008			Q6009			Q6010			Q6011			Q6012		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	4.68	0.03	0	0.04	0	0	0	0.58	0	0.01	0.05	0	0.04	0	0.03	0.01	0.04
PLAY	0	4.67	0.03	0	2.01	0.04	0	0.01	0.58	0	0.20	0.06	0	2.00	0.01	0.04	4.36	2.00
REC	0	4.67	0.03	0	2.00	0.01	0	0.03	0.58	0	0.20	0.05	0.01	2.01	0.01	0.04	4.35	2.00
F.F	0	4.67	0.03	0	9.55	0.03	0	0.06	0	0	0.16	0.05	0	9.54	0.01	10.1	9.56	9.57
REW	0	4.67	0.03	0	9.48	0.01	0	0.02	0	0	0.01	0.55	0	9.51	0	10.1	9.52	9.51
REF. NO.	Q6013			Q6014			Q6015			Q6016			Q6017			Q6018		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0.01	0.04	0	0	0.03	0.61	0	0	0.55	0	0.01	0.53	0	0.01	0.01	0	0.02	0.01
PLAY	4.34	2.00	4.00	0	0.04	0.60	0	0.02	0.55	0	0.02	0.53	0	0.20	0.02	0	0.02	0.01
REC	4.35	2.01	0	0	0.04	0.60	0	0.02	0.55	0	0.02	0.53	0	0.20	0.02	0	0.02	0.01
F.F	9.57	9.69	0	0	10.6	0	0	10.4	0	0	0.02	0.53	0	0.18	0.02	0	0.02	0.01
REW	9.52	9.53	12.1	0	10.5	0	0	10.3	0	0	0.02	0.53	0	0.14	0.02	0	0.02	0.01
REF. NO.	Q6019			Q6020			Q6021			Q6024								
MODE	E	C	B	E	C	B	E	C	B	E	C	B						
STOP	0	0.06	0.02	0	0.05	0.02	11.9	0	11.9	0	14.2	0						
PLAY	0.01	0.21	0.02	0	0.21	0.02	11.9	0	11.9	0	14.0	0						
REC	0	0.29	0.02	0	0.21	0.02	12.0	9.53	9.58	0	14.0	0						
F.F	0	0.06	0.02	0	0.06	0.02	11.9	0	11.9	0	14.0	0						
REW	0	0.06	0.02	0	0.06	0.02	11.9	0	11.9	0	14.0	0						

REF. NO.	QR6001			QR6002			QR6003			QR6004			QR6005			QR6006		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	4.98	0.10	4.92	0	0.04	3.47	11.9	11.9	0.04	11.9	0.02	10.2	0	0.02	0.01	0	0.02	0
PLAY	4.95	0.09	4.90	0	11.9	0.02	11.9	0	11.9	11.9	0	10.3	0	0.02	0.01	0	0.02	0
REC	0	4.89	0	0	0.04	3.44	12.0	11.9	0.04	9.68	9.66	7.49	0	0.02	0.01	0	0.02	0.01
F.F	4.95	0.10	4.90	0	0.04	3.45	11.9	11.9	0.04	11.9	0.04	10.4	0	3.80	0.01	0	0.02	0
REW	0	4.90	0	0	0.04	3.45	11.9	11.9	0.04	11.9	0	10.4	0	3.80	0.01	0	0.02	0

REF. NO.	QR6007			QR6008		
MODE	E	C	B	E	C	B
STOP	0	0.04	3.33	3.34	0	4.92
PLAY	0	0.04	3.32	3.31	0	4.90
REC	0	0.04	3.31	3.31	0	4.89
F.F	0	0.04	3.31	3.31	0	4.89
REW	0	0.04	3.31	3.31	0	4.90

SUB SYSTEM CONTROL ICs VOLTAGE CHART

REF. NO.	IC2601									
MODE	1	2	3	4	5	6	7	8	9	10
STOP	0.01	0.63	0.01	0	0.01	0.64	0.01	0.64	0.01	0.64
PLAY	0.21	0.93	0.27	0.20	2.96	2.36	2.96	3.02	0.27	0.27
REC	0.21	0.93	0.26	0.20	3.02	2.36	3.02	3.02	0.26	3.09
F.F	0.18	0.92	0.20	0.18	8.77	8.05	8.76	8.79	0.20	8.79
REW	0.18	0.18	8.79	8.93	0.20	8.88	0.20	8.10	8.82	8.85

SUB SYSTEM CONTROL TRANSFORMERs VOLTAGE CHART

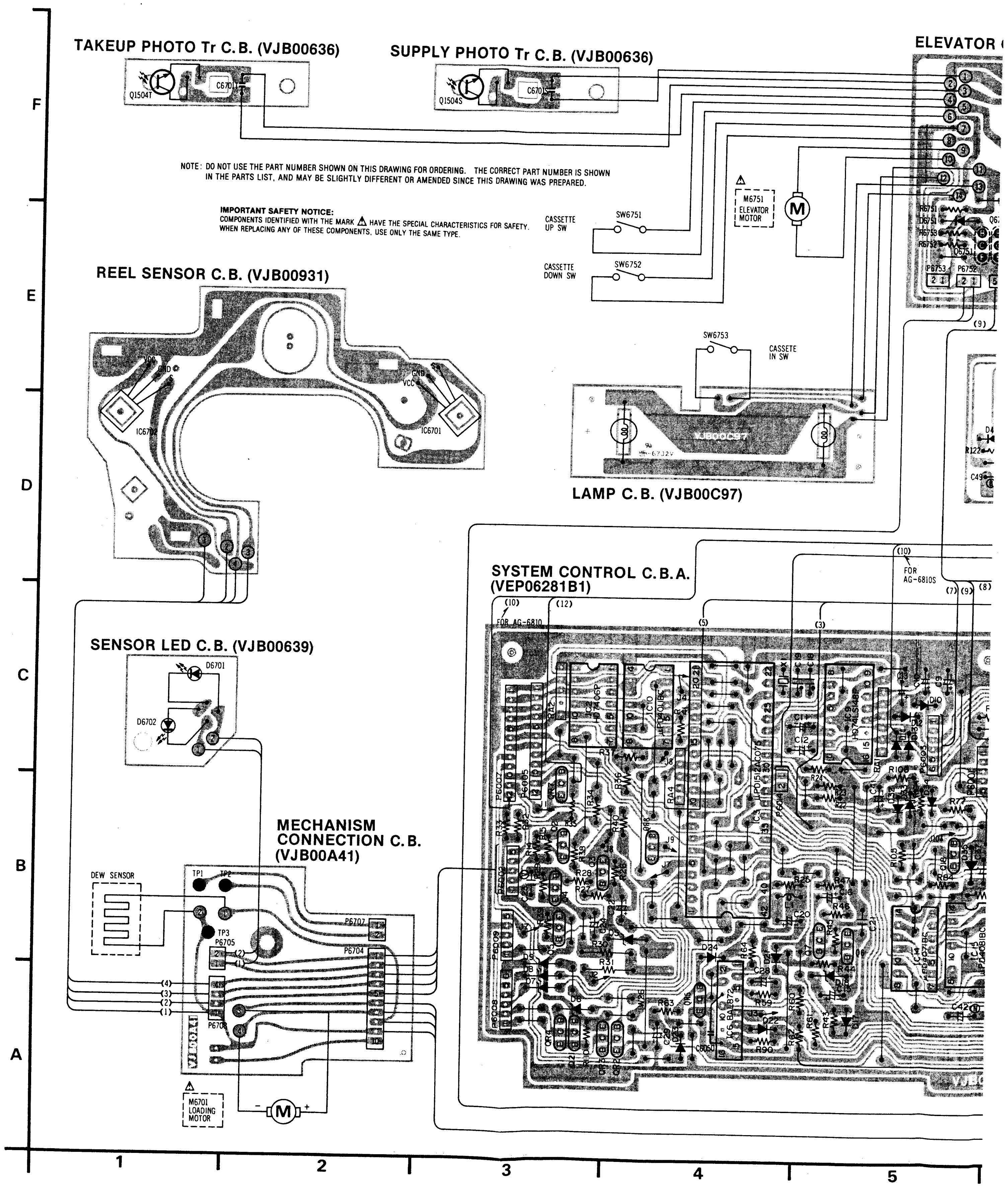
REF. NO.	Q2601			Q2602			Q2603			Q2604			Q2605			Q2606		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	10.2	12.0	10.9	9.47	9.47	8.78	0	9.46	0.11	9.48	0.61	9.46	0	0.03	0.66	3.65	3.64	4.09
PLAY	10.2	12.0	10.9	9.47	9.48	8.78	0	9.46	0.23	9.47	0.50	9.46	0	0.03	0.66	3.63	3.63	4.09
REC	10.2	12.0	10.9	9.46	9.46	8.76	0	9.45	0.08	9.46	0.49	9.45	0	0.03	0.66	3.63	3.63	4.08
F.F	10.2	12.0	10.9	9.47	9.47	8.78	0	9.46	0.33	9.48	0.62	9.46	0	0.05	0.65	3.63	3.63	4.09
REW	10.2	12.0	10.9	9.47	9.47	8.78	0	9.46	0.40	9.48	0.01	9.46	0	0.05	0.65	0.02	0.03	0.63

REF. NO.	Q2607			Q2608			Q2609			Q2610			Q2611			Q2612		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	3.12	9.48	3.64	0	0.02	0.59	0	0.62	0.02	0	0.06	0.65	0	0.02	0.58	0	0.04	0.01
PLAY	3.11	9.47	3.64	0	0.02	0.60	0	0.50	0.02	0	0.06	0.04	0	0.02	0.59	0	0.04	0.01
REC	3.11	9.46	3.64	0	0.02	0.59	0	0.50	0.02	0	0.06	0.65	0	0.02	0.58	0	0.04	0
F.F	3.11	9.47	3.63	0	0.02	0.60	0	0.62	0.02	0	0.06	0.65	0	0.52	0.01	0	0.29	0.17
REW	0.01	9.47	0.03	0	0.62	0.01	0	0.01	0.62	0	8.62	0.02	0	0.59	0.01	0	0.67	0.25

REF. NO.	Q2613			Q2614			Q2615			Q2616			Q2617			Q2618		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	3.69	0.04	0	0.03	0.58	0	0.65	0.02	0.64	0.65	1.37	0.19	0.65	0.04	0	0.04	0.68
PLAY	0	3.89	0.04	0	0.03	0.59	0	0.65	0	0.93	0.95	1.67	0.21	3.03	0.06	0.02	0.06	0.71
REC	0	3.88	0.04	0	0.02	0.58	0	0.65	0	0.93	0.95	1.67	0.20	3.08	0.05	0.02	0.05	0.70
F.F	0	3.89	0.29	0	0.03	0.58	0	0.65	0	0.91	0.98	1.69	0.17	8.78	0.05	0.02	0.05	0.70
REW	0	0.06	0.67	0	0.04	0.58	0	0.02	0.01	0.18	8.87	0.06	0.93	0.98	1.71	0.02	1.71	0.06

REF. NO.	QR2601		
MODE	E	C	B
STOP	0	0.08	4.44
PLAY	0	0.08	4.44
REC	0	0.08	4.45
F.F	0	0.08	4.43
REW	0	0.08	4.42

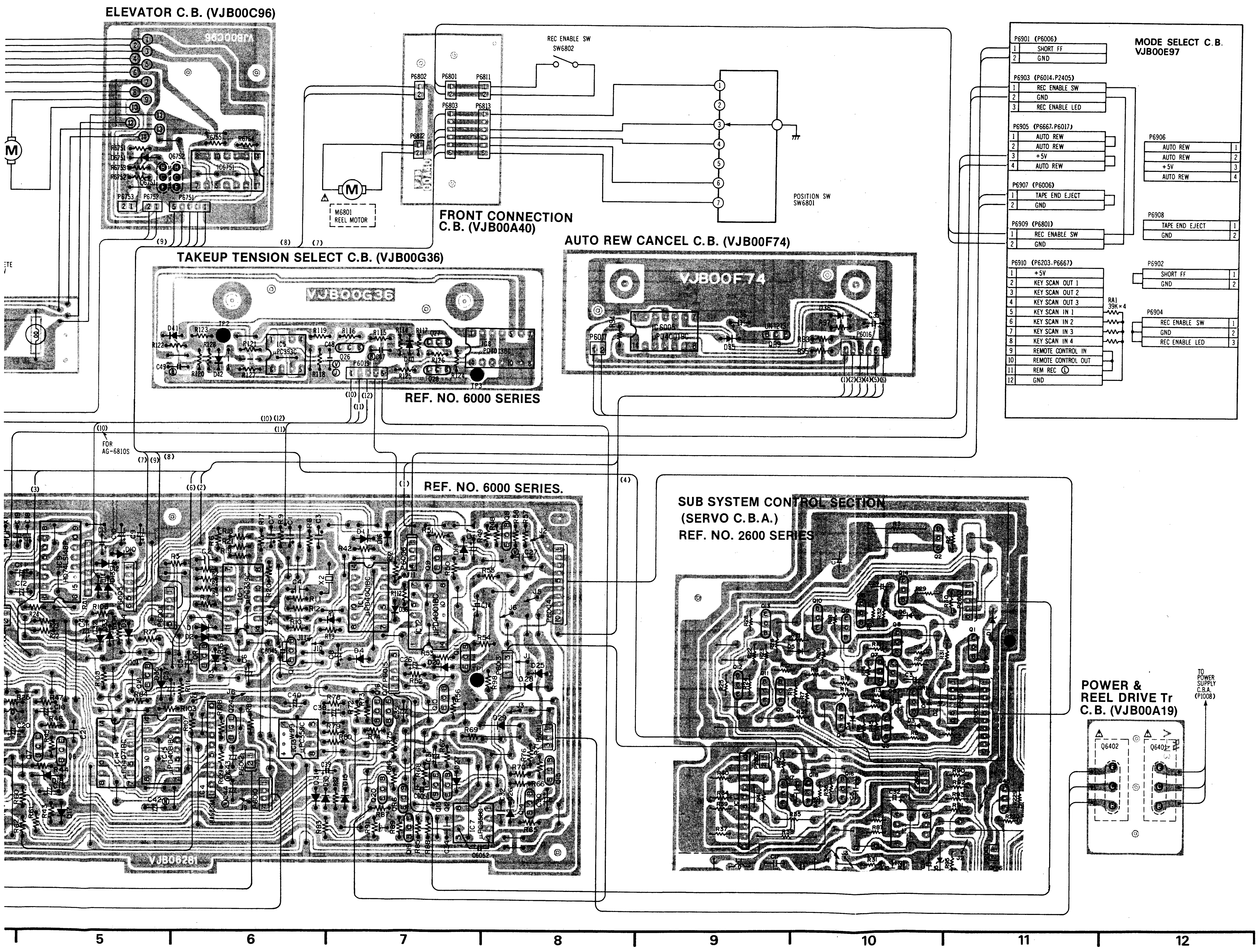
SYSTEM CONTROL C.B.A. (VEP06281B1) & SMALL P.C. BOARD


NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

TAKEUP PHOTO Tr C.B. (VJB00636)
SUPPLY PHOTO Tr C.B. (VJB00636)
ELEVATOR
Q1504T
Q1504S
M6751 ELEVATOR MOTOR
CASSETTE UP SW
SW6751
CASSETTE DOWN SW
SW6752
SW6753
CASSETTE IN SW
REEL SENSOR C.B. (VJB00931)
IC6701
LAMP C.B. (VJB00C97)
SENSOR LED C.B. (VJB00639)
D6701
D6702
SYSTEM CONTROL C.B.A. (VEP06281B1)
FOR AG-6810S
MECHANISM CONNECTION C.B. (VJB00A41)
DEW SENSOR
TP1
TP2
TP3
P6705
P6707
P6704
M6701 LOADING MOTOR
F
E
D
C
B
A
1
2
3
4
5

L P.C. BOARDS


ELEVATOR C.B. (VJB00C96)
FRONT CONNECTION C.B. (VJB00A40)
REC ENABLE SW SW6802
M6801 REEL MOTOR
POSITION SW SW6801
MODE SELECT C.B. VJB00E97
AUTO REW CANCEL C.B. (VJB00F74)
TAKEUP TENSION SELECT C.B. (VJB00G36)
REF. NO. 6000 SERIES
FOR AG-6810S
REF. NO. 6000 SERIES.
SUB SYSTEM CONTROL SECTION (SERVO C.B.A.) REF. NO. 2600 SERIES
POWER & REEL DRIVE Tr C.B. (VJB00A19)
TO POWER SUPPLY C.B.A. (P1008)
Q6402
Q6401
VJB0628I
5
6
7
8
9
10
11
12

SYSTEM CONTROL C.B.A.

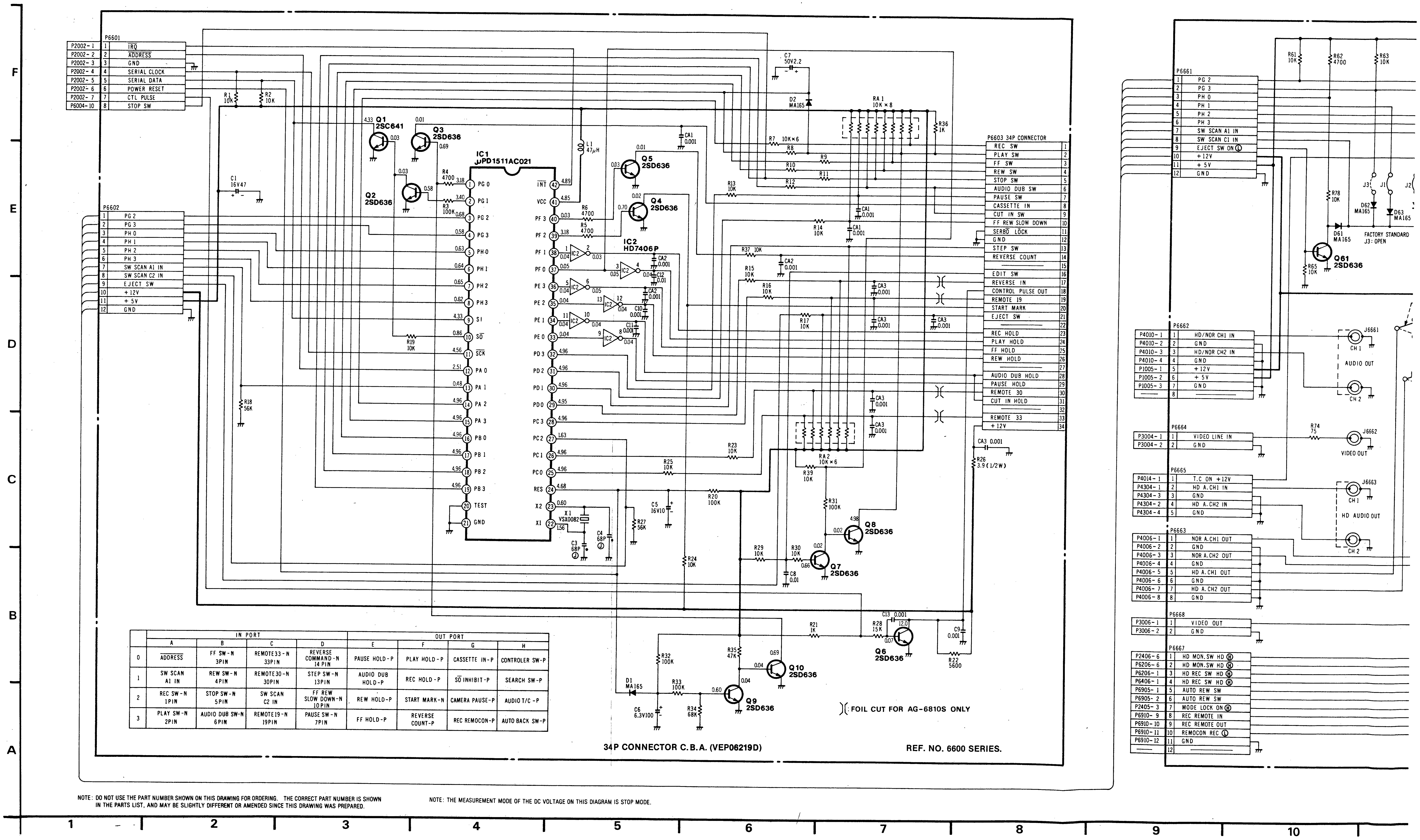
Transistor	
Q1504S	F-3
Q1504T	F-1
Q2601	B-11
Q2602	C-10
Q2603	B-10
Q2604	B-10
Q2605	B-9
Q2606	B-10
Q2607	B-10
Q2608	B-10
Q2609	C-10
Q2610	C-10
Q2611	B-9
Q2612	B-9
Q2613	C-9
Q2614	C-10
Q2615	C-10
Q2616	A-10
Q2617	A-9
Q2618	A-10
Q6001	B-6
Q6002	B-3
Q6003	B-3
Q6004	B-3
Q6005	B-3
Q6006	B-5
Q6007	B-5
Q6008	C-8
Q6009	C-7
Q6010	B-7
Q6011	B-7
Q6012	A-7
Q6013	A-7
Q6014	A-8
Q6015	A-8
Q6016	B-7
Q6017	B-7
Q6018	B-5
Q6019	A-7
Q6020	A-7
Q6021	A-3
Q6024	B-6
Q6026	D-7
Q6027	D-7
Q6028	D-7
Q6401	B-12
Q6402	B-12
Q6751	E-5
Q6752	E-6

Transistor & Resistor	
QR2601	B-10
QR6001	B-6
QR6002	A-4
QR6003	A-4
QR6004	A-3
QR6005	A-4
QR6006	A-7
QR6007	B-3
QR6008	B-4
QR6009	D-9

Integrated Circuit	
IC2601	A-9
IC6001	C-6
IC6002	C-3
IC6003	B-4
IC6004	A-6
IC6005	D-6
IC6005	D-9
IC6006	A-4
IC6007	A-7
IC6008	D-8
IC6009	C-5
IC6010	C-4
IC6011	C-7
IC6012	B-7
IC6013	B-6
IC6014	B-5
IC6015	B-5
IC6701	D-3
IC6702	D-1
IC6751	E-6

ADDRESS INFORMATION

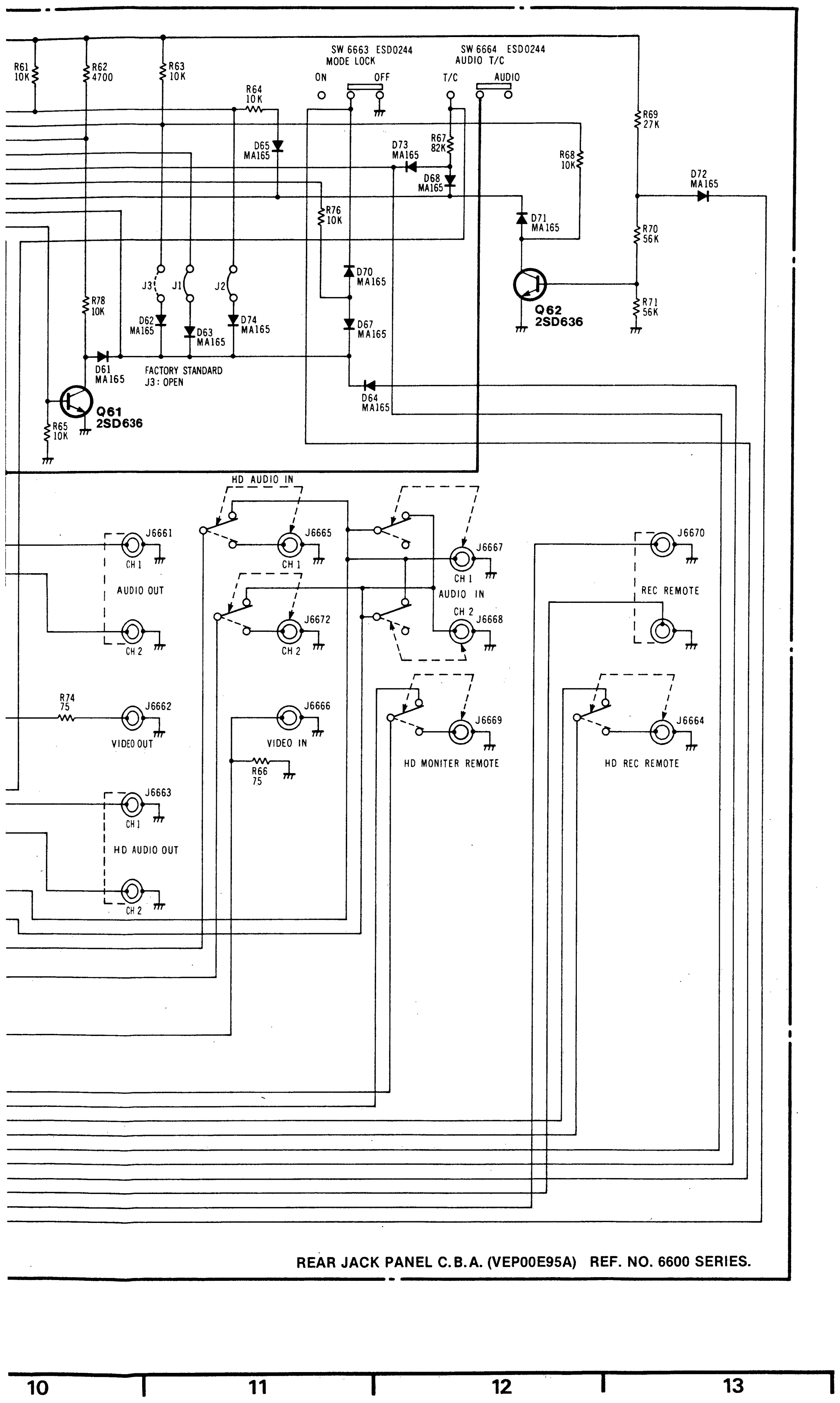
34P CONNECTOR & REAR JACK PANEL SCHEMATIC DIAGRAM


P6601
P2002-1 1 IRQ
P2002-2 2 ADDRESS
P2002-3 3 GND
P2002-4 4 SERIAL CLOCK
P2002-5 5 SERIAL DATA
P2002-6 6 POWER RESET
P2002-7 7 CTL PULSE
P6004-10 8 STOP SW
P6602
1 PG 2
2 PG 3
3 PH 0
4 PH 1
5 PH 2
6 PH 3
7 SW SCAN A1 IN
8 SW SCAN C2 IN
9 EJECT SW
10 +12V
11 +5V
12 GND
Q1 2SC641
Q2 2SD636
Q3 2SD636
Q4 2SD636
Q5 2SD636
Q6 2SD636
Q7 2SD636
Q8 2SD636
Q9 2SD636
Q10 2SD636
Q61 2SD636
IC1 μPD1511AC021
IC2 HD7406P
X1 VSX0082
L1 47μH
C7 50V2.2
D2 MA165
D1 MA165
RA1 10K×8
RA2 10K×6
R26 3.9(1/2W)
P6603 34P CONNECTOR
1 REC SW
2 PLAY SW
3 FF SW
4 REW SW
5 STOP SW
6 AUDIO DUB SW
7 PAUSE SW
8 CASSETTE IN
9 CUT IN SW
10 FF REW SLOW DOWN
11 SERBO LOCK
12 GND
13 STEP SW
14 REVERSE COUNT
15
16 EDIT SW
17 REVERSE IN
18 CONTROL PULSE OUT
19 REMOTE 19
20 START MARK
21 EJECT SW
22
23 REC HOLD
24 PLAY HOLD
25 FF HOLD
26 REW HOLD
27
28 AUDIO DUB HOLD
29 PAUSE HOLD
30 REMOTE 30
31 CUT IN HOLD
32
33 REMOTE 33
34 +12V
P6661
1 PG 2
2 PG 3
3 PH 0
4 PH 1
5 PH 2
6 PH 3
7 SW SCAN A1 IN
8 SW SCAN C1 IN
9 EJECT SW ON Ⓛ
10 +12V
11 +5V
12 GND
FACTORY STANDARD J3: OPEN
P6662
P4010-1 1 HD/NOR CH1 IN
P4010-2 2 GND
P4010-3 3 HD/NOR CH2 IN
P4010-4 4 GND
P1005-1 5 +12V
P1005-2 6 +5V
P1005-3 7 GND
8
J6661 CH 1 AUDIO OUT CH 2
P6664
P3004-1 1 VIDEO LINE IN
P3004-2 2 GND
J6662 VIDEO OUT
P6665
P4014-1 1 T.C ON +12V
P4304-1 2 HD A.CH1 IN
P4304-3 3 GND
P4304-2 4 HD A.CH2 IN
P4304-4 5 GND
J6663 CH 1 HD AUDIO OUT CH 2
P6663
P4006-1 1 NOR A.CH1 OUT
P4006-2 2 GND
P4006-3 3 NOR A.CH2 OUT
P4006-4 4 GND
P4006-5 5 HD A.CH1 OUT
P4006-6 6 GND
P4006-7 7 HD A.CH2 OUT
P4006-8 8 GND
P6668
P3006-1 1 VIDEO OUT
P3006-2 2 GND
P6667
P2406-6 1 HD MON.SW HD Ⓗ
P6206-6 2 HD MON.SW HD Ⓛ
P6206-1 3 HD REC SW HD Ⓗ
P6406-1 4 HD REC SW HD Ⓗ
P6905-1 5 AUTO REW SW
P6905-2 6 AUTO REW SW
P2405-3 7 MODE LOCK ON Ⓗ
P6910-9 8 REC REMOTE IN
P6910-10 9 REC REMOTE OUT
P6910-11 10 REMOCON REC Ⓛ
P6910-12 11 GND
12
)(: FOIL CUT FOR AG-6810S ONLY
34P CONNECTOR C.B.A. (VEP06219D)
REF. NO. 6600 SERIES.
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10

	IN PORT				OUT PORT			
	A	B	C	D	E	F	G	H
0	ADDRESS	FF SW-N 3PIN	REMOTE33-N 33PIN	REVERSE COMMAND-N 14 PIN	PAUSE HOLD-P	PLAY HOLD-P	CASSETTE IN-P	CONTROLER SW-P
1	SW SCAN A1 IN	REW SW-N 4PIN	REMOTE30-N 30PIN	STEP SW-N 13PIN	AUDIO DUB HOLD-P	REC HOLD-P	SO INHIBIT-P	SEARCH SW-P
2	REC SW-N 1PIN	STOP SW-N 5PIN	SW SCAN C2 IN	FF REW SLOW DOWN-N 10PIN	REW HOLD-P	START MARK-N	CAMERA PAUSE-P	AUDIO T/C-P
3	PLAY SW-N 2PIN	AUDIO DUB SW-N 6PIN	REMOTE19-N 19PIN	PAUSE SW-N 7PIN	FF HOLD-P	REVERSE COUNT-P	REC REMOCON-P	AUTO BACK SW-P

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

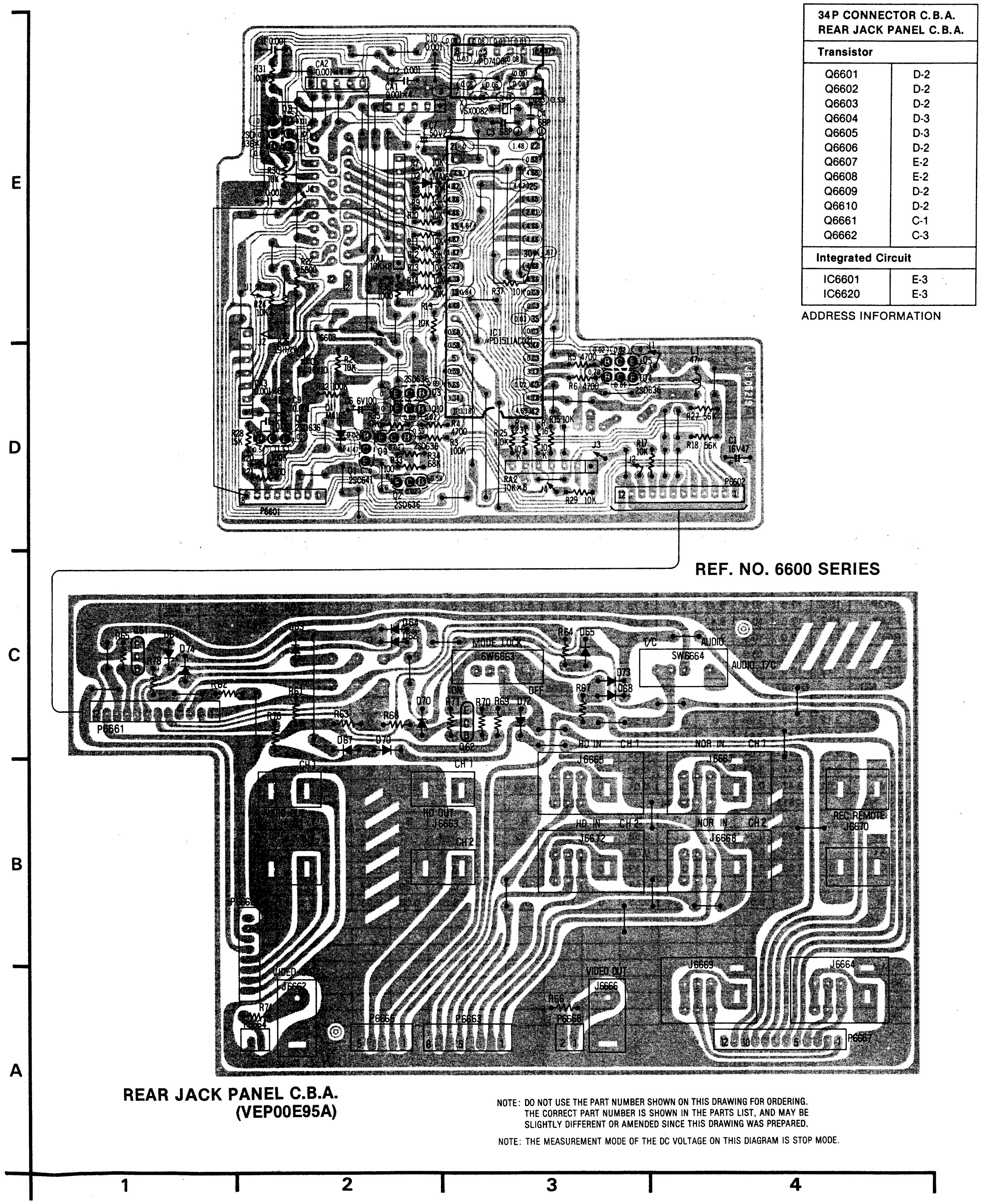

R61 10K
R62 4700
R63 10K
R64 10K
SW 6663 ESD0244 MODE LOCK
ON
OFF
SW 6664 ESD0244 AUDIO T/C
T/C
AUDIO
R69 27K
D65 MA165
D73 MA165
R67 82K
R68 10K
D68 MA165
D72 MA165
R76 10K
D71 MA165
R70 56K
J3
J1
J2
D70 MA165
Q62 2SD636
R71 56K
R78 10K
D62 MA165
D63 MA165
D74 MA165
D67 MA165
D61 MA165
FACTORY STANDARD J3: OPEN
D64 MA165
Q61 2SD636
R65 10K
HD AUDIO IN
J6661
CH 1
AUDIO OUT
CH 2
J6665
J6667
CH 1
AUDIO IN
CH 2
J6668
J6672
J6670
REC REMOTE
R74 75
J6662
VIDEO OUT
J6666
VIDEO IN
R66 75
J6669
HD MONITER REMOTE
J6664
HD REC REMOTE
J6663
CH 1
HD AUDIO OUT
CH 2
10
11
12
13

REAR JACK PANEL C.B.A. (VEP00E95A) REF. NO. 6600 SERIES.

34P CONNECTOR C.B.A. (VEP06219D) & REAR JACK PANEL C.B.A. (VEP00E95A)

34P CONNECTOR C.B.A. REAR JACK PANEL C.B.A.	
Transistor	
Q6601	D-2
Q6602	D-2
Q6603	D-2
Q6604	D-3
Q6605	D-3
Q6606	D-2
Q6607	E-2
Q6608	E-2
Q6609	D-2
Q6610	D-2
Q6661	C-1
Q6662	C-3
Integrated Circuit	
IC6601	E-3
IC6620	E-3

ADDRESS INFORMATION


E
D
C
B
A
1
2
3
4
IC1
P6601
P6602
SW6663
MODE LOCK
SW6664
AUDIO
AUDIO T/C
T/C
P6661
HD IN CH 1
NOR IN CH 1
J6665
J6667
HD OUT J6663
HD IN CH 2
NOR IN CH 2
J6672
J6668
REC REMOTE J6670
VIDEO J6662
VIDEO OUT J6666
J6669
J6664
P6664
P6665
P6663
P6668
P6667

REF. NO. 6600 SERIES

REAR JACK PANEL C.B.A.
(VEP00E95A)

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING.
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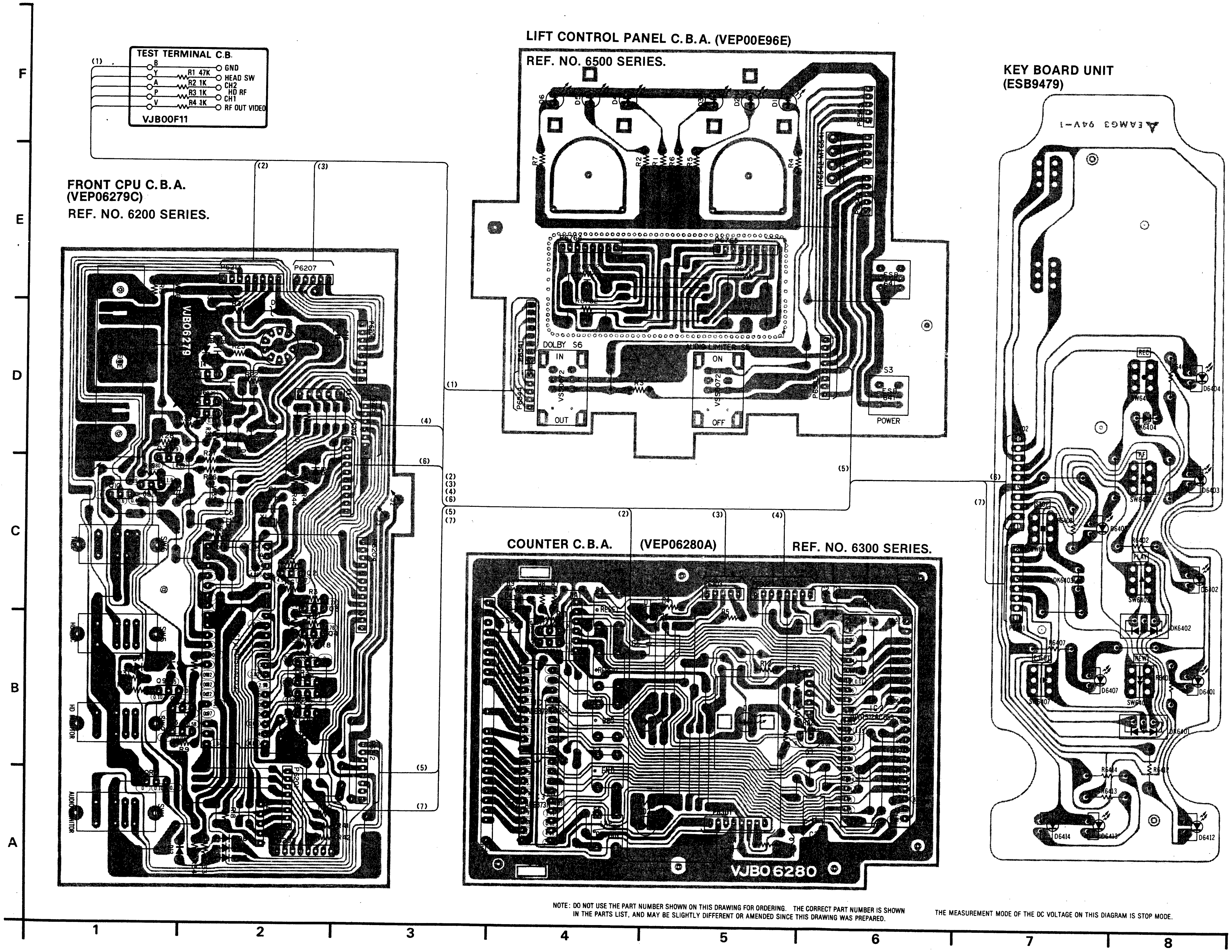
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

FRONT CPU C.B.A. (VEOP06279C), COUNTER C.B.A. (VEP06280A1), LEFT CONTROL PANEL C.B.A. (VEP00E96A), KEY BOARD UNIT (ESB9479) & SMALL P.C. BOARD


TEST TERMINAL C.B.
R1 47K GND
R2 1K HEAD SW
R3 1K CH2
HD RF CH1
R4 1K RF OUT VIDEO
VJB00F11
LIFT CONTROL PANEL C.B.A. (VEP00E96E)
REF. NO. 6500 SERIES.
DOLBY S6
IN
OUT
AUDIO LIMITER S5
ON
OFF
S3
POWER
KEY BOARD UNIT
(ESB9479)
FRONT CPU C.B.A.
(VEP06279C)
REF. NO. 6200 SERIES.
VJB06279
P6207
COUNTER C.B.A.
(VEP06280A)
REF. NO. 6300 SERIES.
VJBO6280
REC
PLAY
REW
D6401
D6402
D6403
D6404
D6407
D6412
D6413
D6414
F
E
D
C
B
A
1
2
3
4
5
6
7
8

FRONT CPU C.B.A. COUNTOR C.B.A.	
Transistor	
Q6202	C-2
Q6203	C-2
Q6204	B-2
Q6205	B-1
Q6206	B-1
Q6207	D-1
Q6208	C-1
Q6209	B-1
Q6210	C-1
Q6215	D-2
Q6216	D-2
Q6301	B-6
Q6302	B-4
Q6303	B-4
Transistor & Resistor	
QR6201	B-2
QR6202	B-2
QR6203	B-2
QR6204	B-2
QR6205	A-1
Integrated Circuit	
IC6201	B-2
IC6301	B-4
IC6302	B-6
IC6303	A-4

ADDRESS INFORMATION

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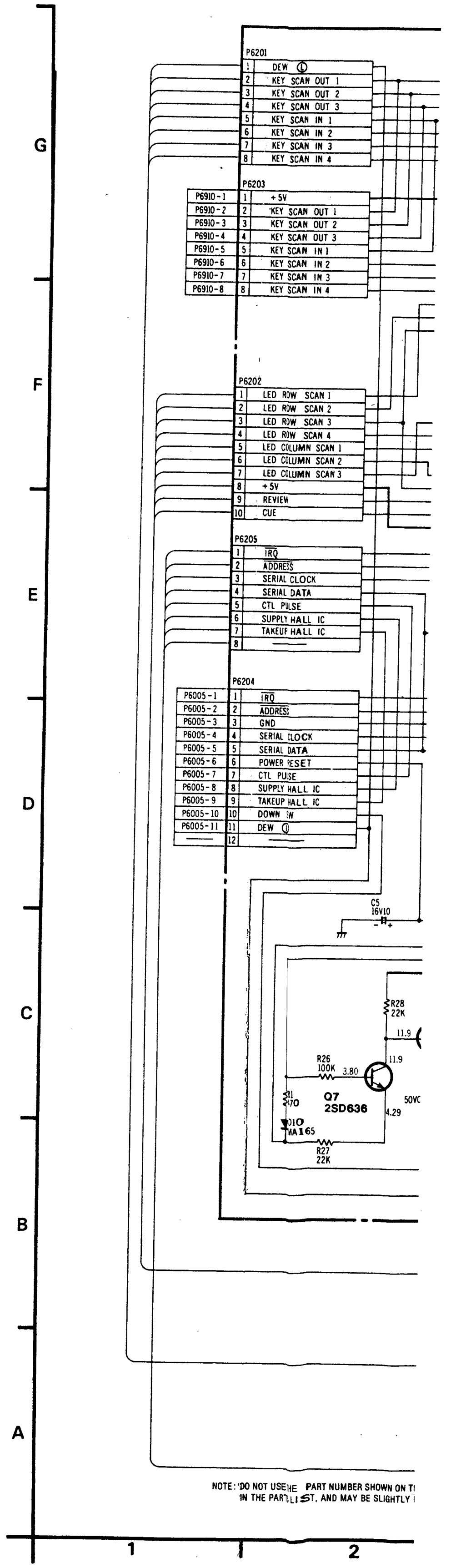
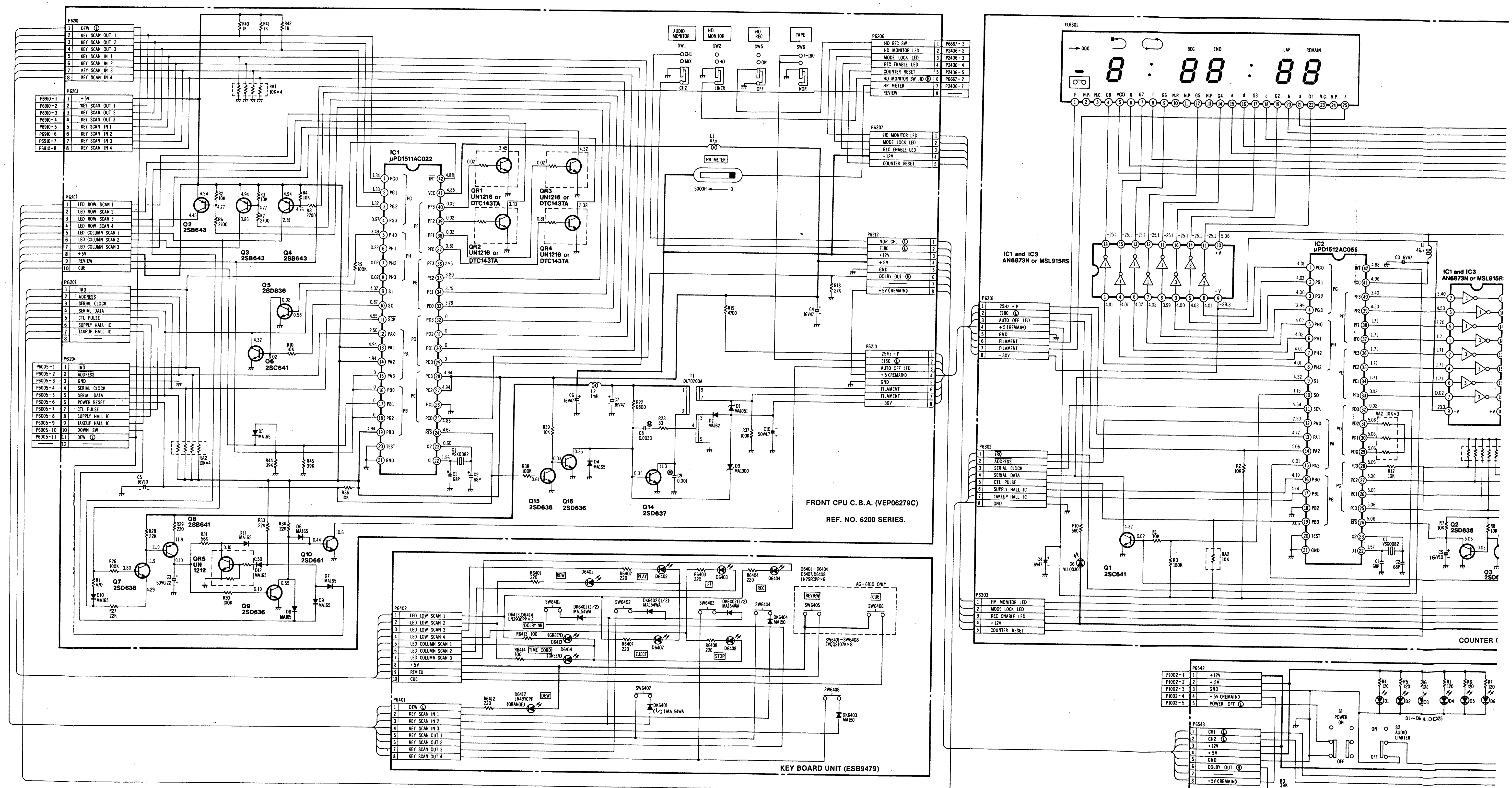
THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

FRONT CPU, COUN


P6201
DEW
KEY SCAN OUT 1
KEY SCAN OUT 2
KEY SCAN OUT 3
KEY SCAN IN 1
KEY SCAN IN 2
KEY SCAN IN 3
KEY SCAN IN 4
P6203
+5V
P6202
LED ROW SCAN 1
LED ROW SCAN 2
LED ROW SCAN 3
LED ROW SCAN 4
LED COLUMN SCAN 1
LED COLUMN SCAN 2
LED COLUMN SCAN 3
REVIEW
CUE
P6205
IRQ
ADDRESS
SERIAL CLOCK
SERIAL DATA
CTL PULSE
SUPPLY HALL IC
TAKEUP HALL IC
P6204
GND
POWER RESET
DOWN
Q7
2SD636
R26
100K
R27
22K
R28
22K
G
F
E
D
C
B
A
1
2

NOTE: DO NOT USE THE PART NUMBER SHOWN ON TH
IN THE PARTS LIST, AND MAY BE SLIGHTLY

NT CPU, COUNTER, LEFT CONTROL PANEL & KEY BOARD SCHEMATIC DIAGRAM

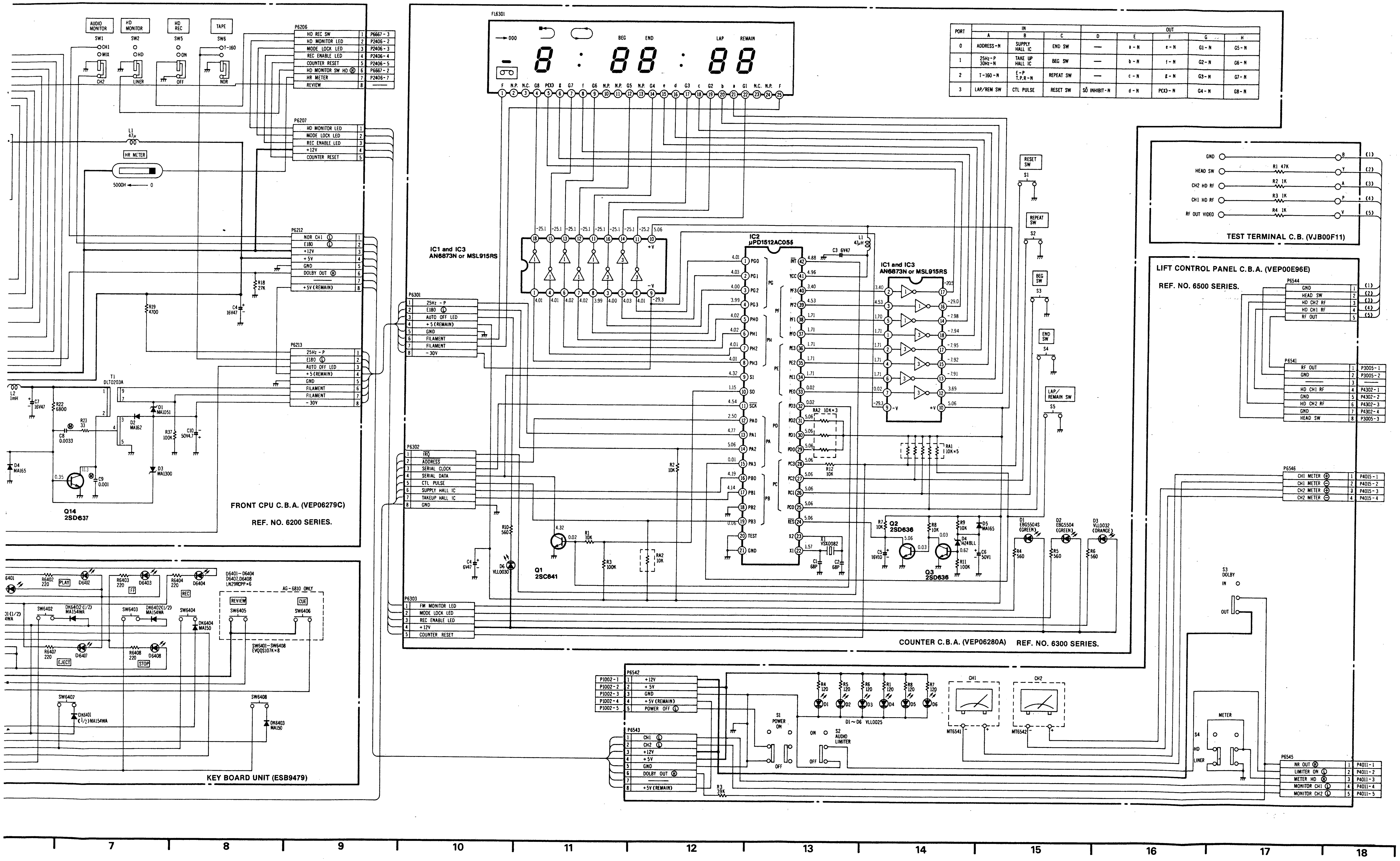

IC1
μPD1511AC022
QR1 UN1216 or DTC143TA
QR2 UN1216 or DTC143TA
QR3 UN1216 or DTC143TA
QR4 UN1216 or DTC143TA
Q2 2SB643
Q3 2SB643
Q4 2SB643
Q5 2SD636
Q6 2SC641
Q7 2SD636
Q8 2SB641
Q9 2SD636
Q10 2SD661
QR5 UN 1212
Q14 2SD637
Q15 2SD636
Q16 2SD636
T1 DLT0203A
HR METER
5000H ← 0
AUDIO MONITOR
HD MONITOR
HD REC
TAPE
FRONT CPU C.B.A. (VEP06279C)
REF. NO. 6200 SERIES.
KEY BOARD UNIT (ESB9479)
FL6301
IC1 and IC3
AN6873N or MSL915RS
IC2
μPD1512AC055
Q1 2SC641
COUNTER

NOTE : DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

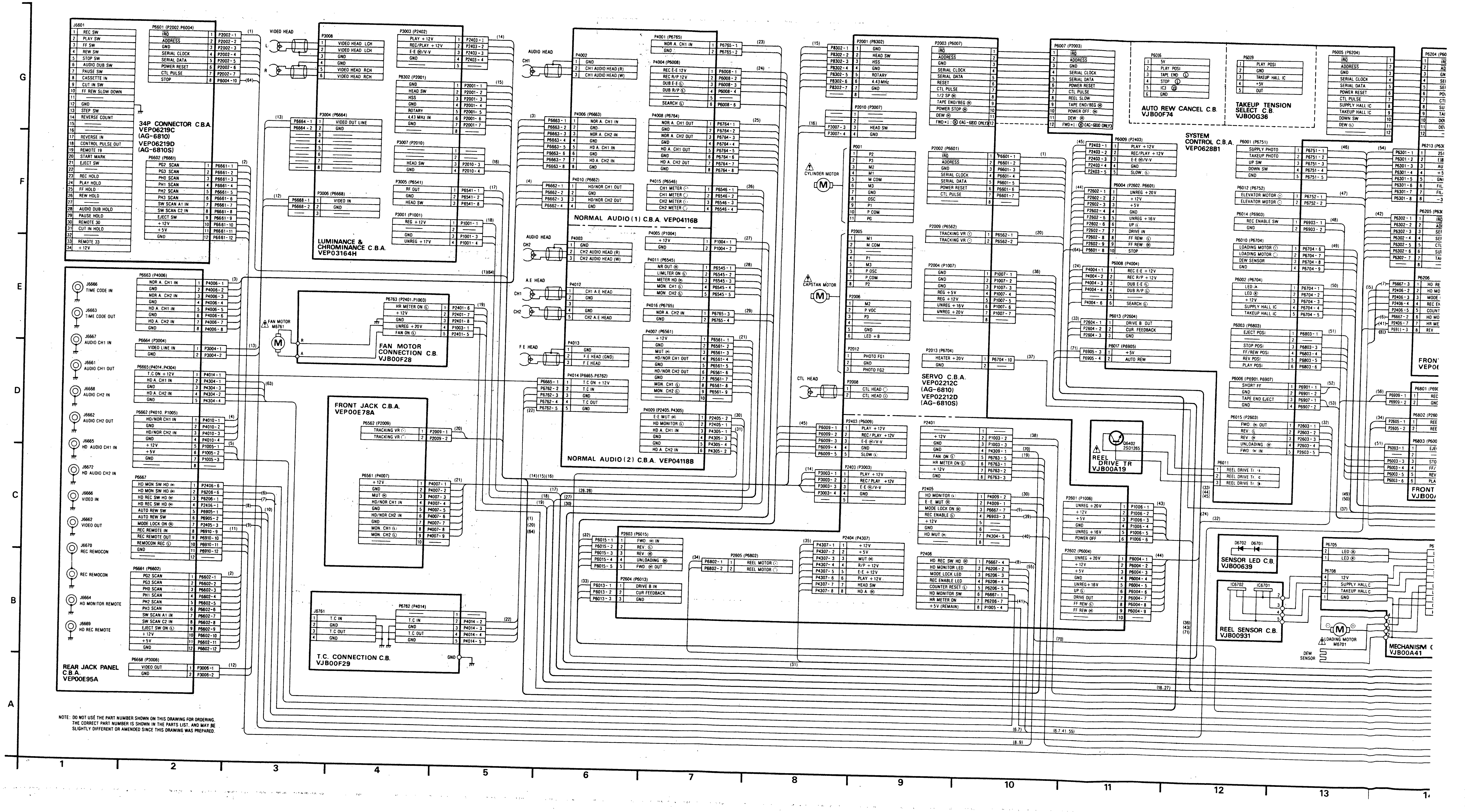
1 2 3 4 5 6 7 8 9 10 11 12 13 14

3OARD SCHEMATIC DIAGRAM

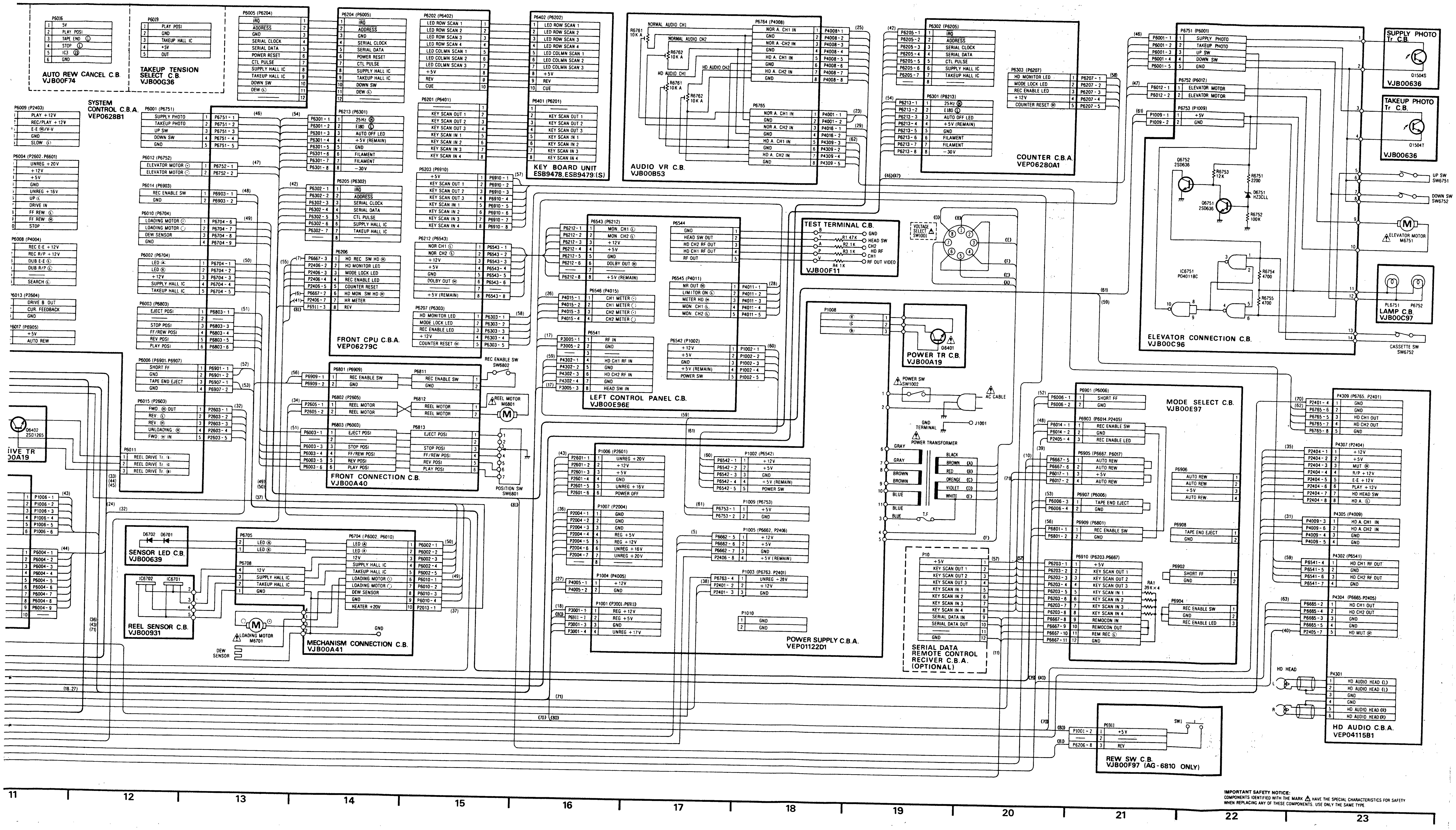

FL6301
IC2
μPD1512AC055
IC1 and IC3
AN6873N or MSL915RS
FRONT CPU C.B.A. (VEP06279C)
REF. NO. 6200 SERIES.
COUNTER C.B.A. (VEP06280A) REF. NO. 6300 SERIES.
TEST TERMINAL C.B. (VJB00F11)
LIFT CONTROL PANEL C.B.A. (VEP00E96E)
REF. NO. 6500 SERIES.
KEY BOARD UNIT (ESB9479)
Q14
2SD637
Q1
2SC641
Q2
2SD636
Q3
2SD636
AUDIO MONITOR
HD MONITOR
HD REC
TAPE
HR METER
5000H
RESET SW
REPEAT SW
BEG SW
END SW
LAP/REMAIN SW
PLAY
FF
REC
REVIEW
CUE
EJECT
STOP
AG-6810 ONLY
S1 POWER ON
S2 AUDIO LIMITER
S3 DOLBY
S4
METER
CH1
CH2
7
8
9
10
11
12
13
14
15
16
17
18

PORT	IN			OUT				
	A	B	C	D	E	F	G	H
0	ADDRESS-N	SUPPLY HALL IC	END SW	—	a-N	e-N	G1-N	G5-N
1	25Hz-P 30Hz-N	TAKE UP HALL IC	BEG SW	—	b-N	f-N	G2-N	G6-N
2	T-160-N	E-P T.P.R-N	REPEAT SW	—	c-N	g-N	G3-N	G7-N
3	LAP/REM SW	CTL PULSE	RESET SW	SŌ INHIBIT-N	d-N	P(X)-N	G4-N	G8-N

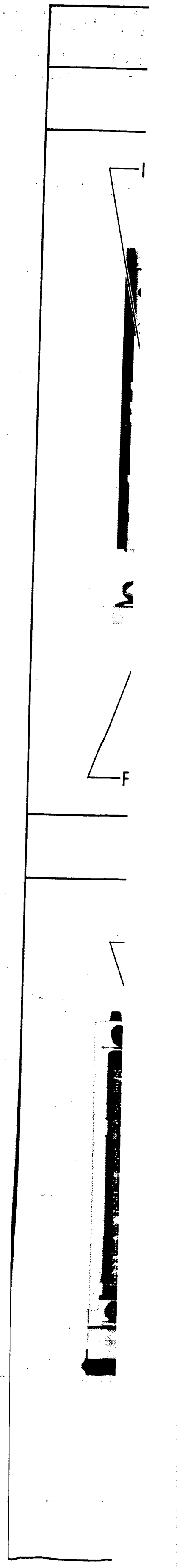
INTERCONNECTION SCHEMATIC DIAGRAM

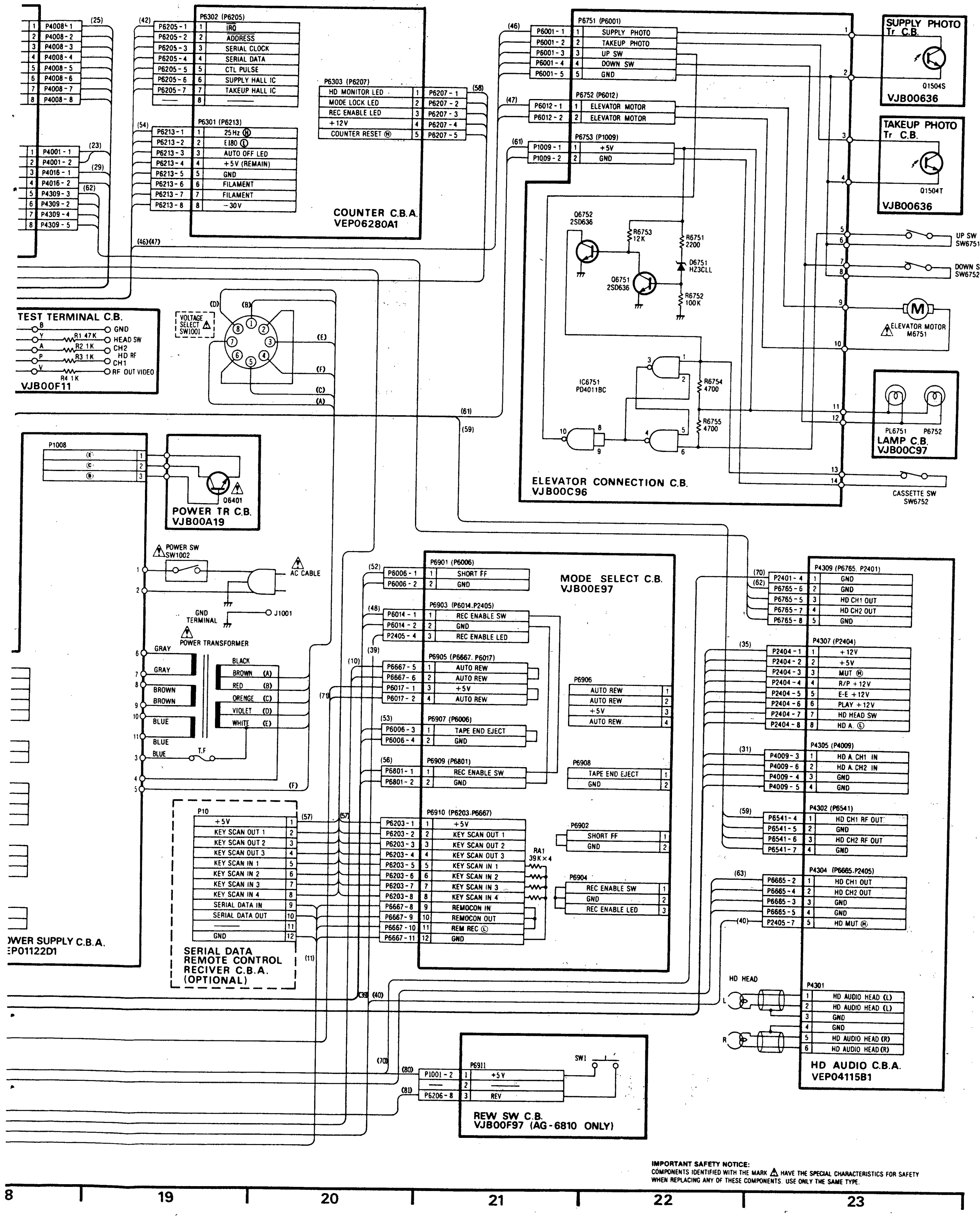

34P CONNECTOR C.B.A.
VEP06219C
(AG-6810)
VEP06219D
(AG-6810S)
LUMINANCE & CHROMINANCE C.B.A.
VEP03164H
FAN MOTOR CONNECTION C.B.
VJB00F28
FAN MOTOR M6751
VIDEO HEAD
AUDIO HEAD
A.E HEAD
F.E HEAD
CTL HEAD
CYLINDER MOTOR
CAPSTAN MOTOR
NORMAL AUDIO (1) C.B.A. VEP04116B
NORMAL AUDIO (2) C.B.A. VEP04118B
FRONT JACK C.B.A.
VEP00E78A
REAR JACK PANEL C.B.A.
VEP00E95A
T.C. CONNECTION C.B.
VJB00F29
SERVO C.B.A.
VEP02212C
(AG-6810)
VEP02212D
(AG-6810S)
REEL DRIVE TR
VJB00A19
Q6402 2SD1265
AUTO REW CANCEL C.B.
VJB00F74
TAKEUP TENSION SELECT C.B.
VJB00G36
SYSTEM CONTROL C.B.A.
VEP06288I
SENSOR LED C.B.
VJB00639
REEL SENSOR C.B.
VJB00931
LOADING MOTOR M6701
DEW SENSOR
MECHANISM
VJB00A41
FRONT
VJB00
1
2
3
4
5
6
7
8
9
10
11
12
13
A
B
C
D
E
F
G

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.


AUTO REW CANCEL C.B. VJB00F74
TAKEUP TENSION SELECT C.B. VJB00G36
SYSTEM CONTROL C.B.A. VEP0628B1
FRONT CPU C.B.A. VEP06279C
KEY BOARD UNIT ESB9478, ESB9479(S)
AUDIO VR C.B. VJB00B53
COUNTER C.B.A. VEP06280A1
SUPPLY PHOTO Tr C.B. VJB00636
TAKEUP PHOTO Tr C.B. VJB00636
ELEVATOR CONNECTION C.B. VJB00C96
LAMP C.B. VJB00C97
TEST TERMINAL C.B. VJB00F11
POWER TR C.B. VJB00A19
LEFT CONTROL PANEL C.B. VJB00E96E
FRONT CONNECTION C.B. VJB00A40
SENSOR LED C.B. VJB00639
REEL SENSOR C.B. VJB00931
MECHANISM CONNECTION C.B. VJB00A41
POWER SUPPLY C.B.A. VEP01122D1
SERIAL DATA REMOTE CONTROL RECIVER C.B.A. (OPTIONAL)
MODE SELECT C.B. VJB00E97
HD AUDIO C.B.A. VEP04115B1
REW SW C.B. VJB00F97 (AG-6810 ONLY)
ELEVATOR MOTOR M6751
CASSETTE SW SW6752
UP SW SW6751
DOWN SW SW6752
REEL MOTOR M6801
LOADING MOTOR M6701
DEW SENSOR
REC ENABLE SW SW6802
POSITION SW SW6801
POWER SW SW1002
AC CABLE
POWER TRANSFORMER
GND TERMINAL J1001
HD HEAD
11
12
13
14
15
16
17
18
19
20
21
22
23

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY WHEN REPLACING ANY OF THESE COMPONENTS. USE ONLY THE SAME TYPE

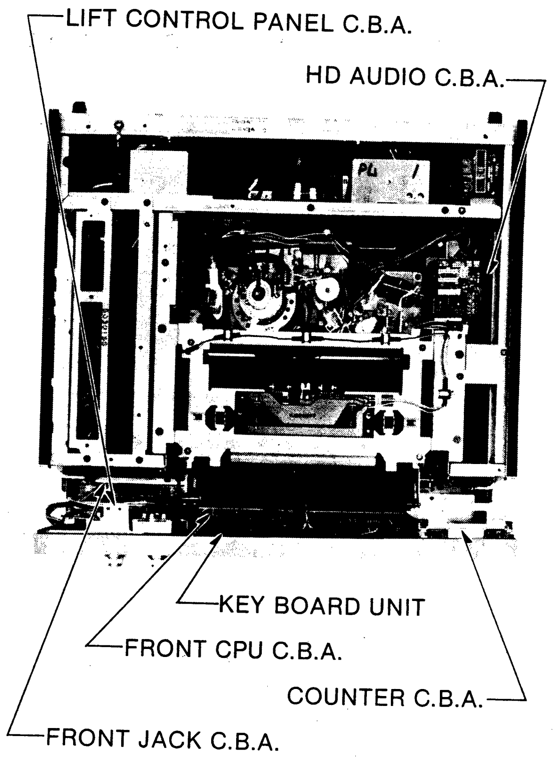



COUNTER C.B.A.
VEP06280A1
ELEVATOR CONNECTION C.B.
VJB00C96
SUPPLY PHOTO Tr C.B.
VJB00636
TAKEUP PHOTO Tr C.B.
VJB00636
LAMP C.B.
VJB00C97
UP SW SW6751
DOWN SW SW6752
ELEVATOR MOTOR M6751
CASSETTE SW SW6752
TEST TERMINAL C.B.
VJB00F11
POWER TR C.B.
VJB00A19
POWER SW SW1002
AC CABLE
POWER TRANSFORMER
MODE SELECT C.B.
VJB00E97
SERIAL DATA REMOTE CONTROL RECIVER C.B.A. (OPTIONAL)
HD AUDIO C.B.A.
VEP04115B1
REW SW C.B.
VJB00F97 (AG-6810 ONLY)
HD HEAD
POWER SUPPLY C.B.A.
VEP01122D1
8
19
20
21
22
23

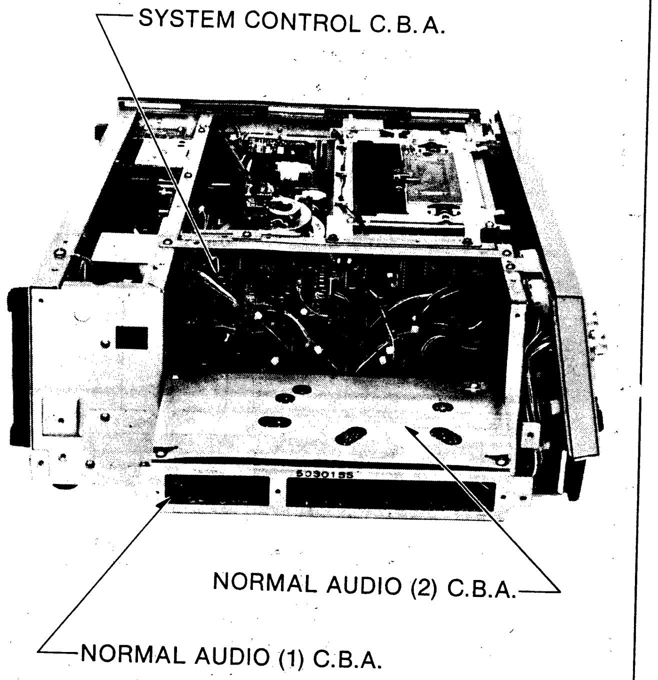
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY WHEN REPLACING ANY OF THESE COMPONENTS. USE ONLY THE SAME TYPE.

CIRCUIT BOARDS LAYOUT

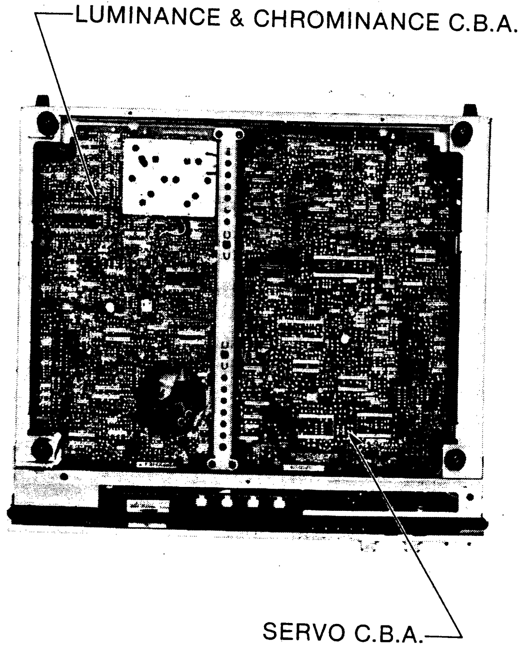
TOP VIEW


LIFT CONTROL PANEL C.B.A.
HD AUDIO C.B.A.
KEY BOARD UNIT
FRONT CPU C.B.A.
COUNTER C.B.A.
FRONT JACK C.B.A.

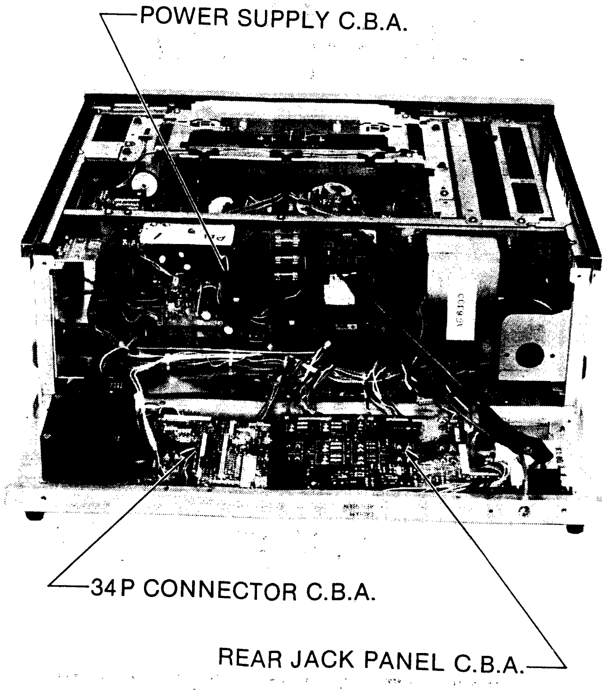
LEFT SIDE VIEW


SYSTEM CONTROL C.B.A.
NORMAL AUDIO (2) C.B.A.
NORMAL AUDIO (1) C.B.A.

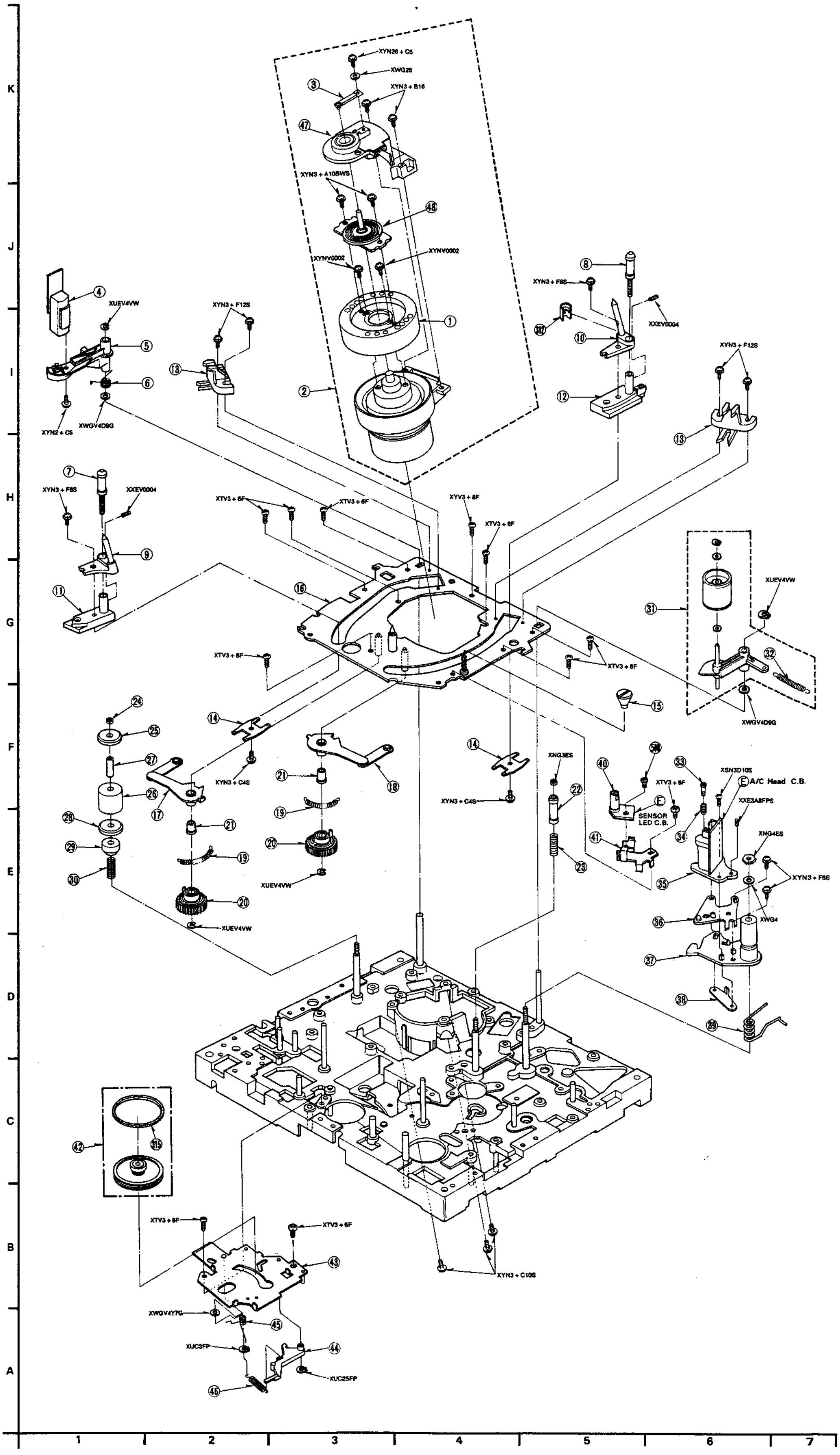
BOTTOM VIEW


LUMINANCE & CHROMINANCE C.B.A.
SERVO C.B.A.

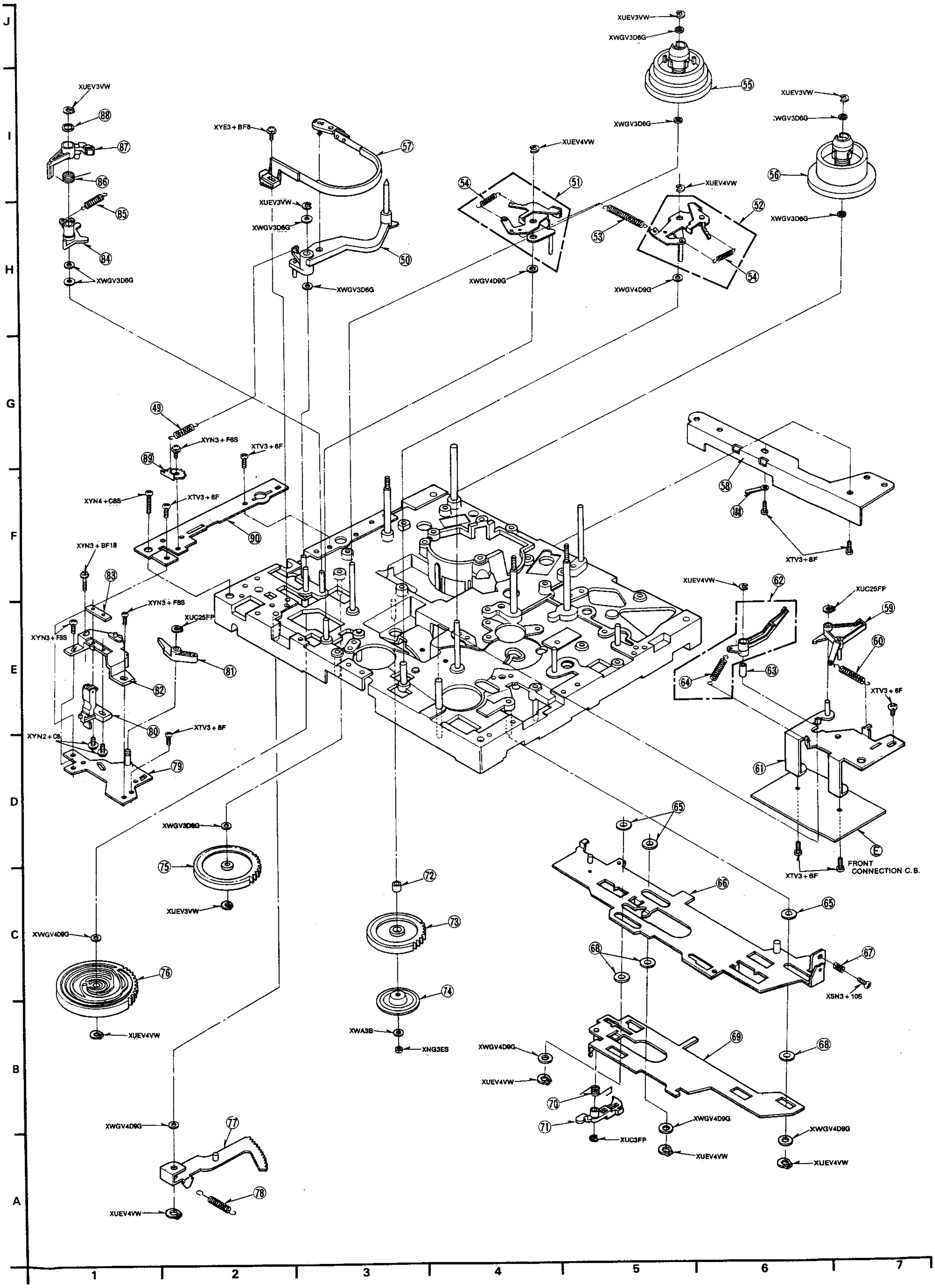
REAR VIEW


POWER SUPPLY C.B.A.
34P CONNECTOR C.B.A.
REAR JACK PANEL C.B.A.

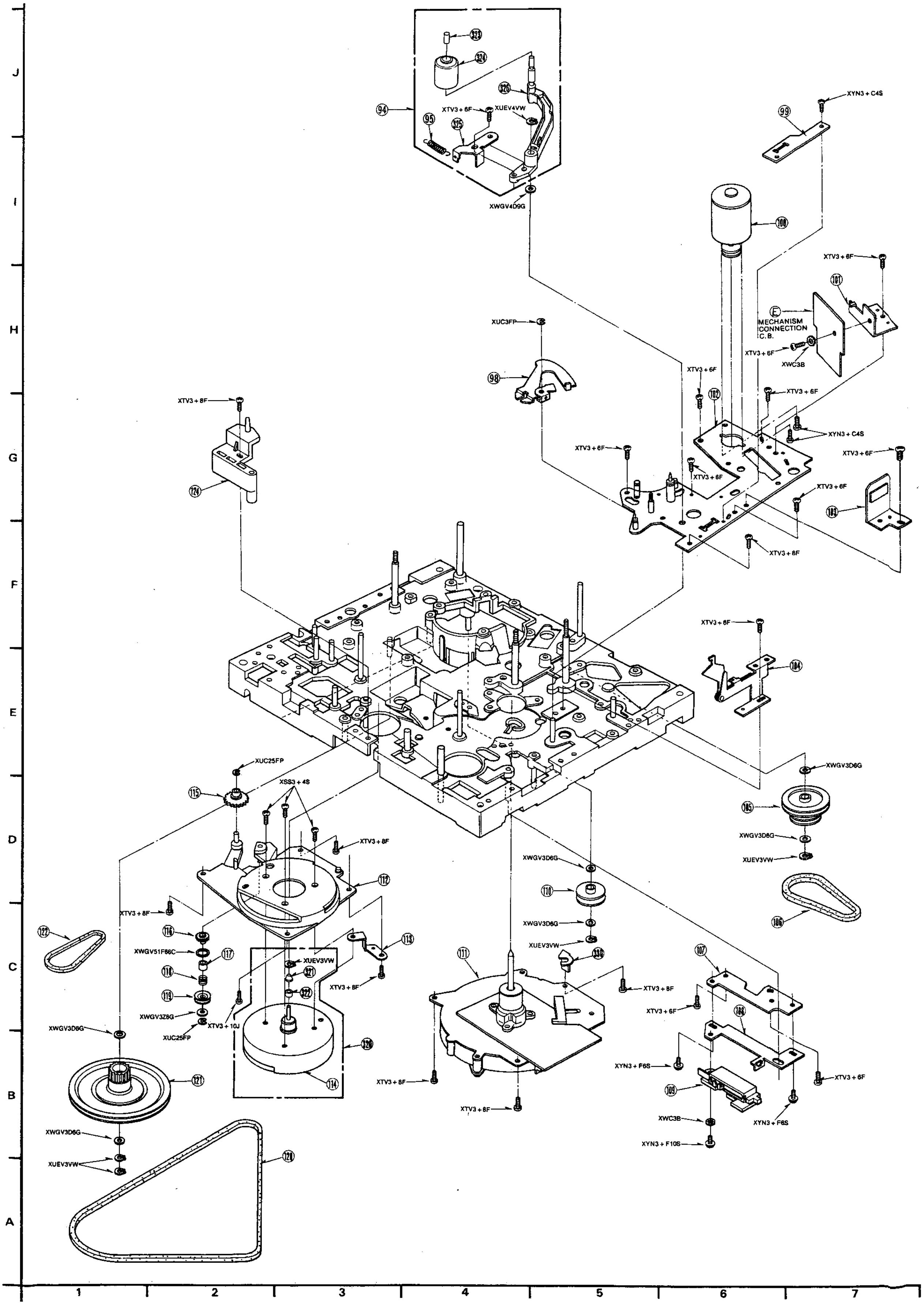
EXPLODED VIEWS ❶ *Transport Section*


K
J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
XYN26 + C5
XWG26
③
XYN3 + B16
(47)
XYN3 + A10BWS
(48)
XYNV0002
XYNV0002
①
②
④
XUEV4VW
⑤
⑥
XYN2 + C5
XWGV4D9G
XYN3 + F12S
⑬
⑧
XYN3 + F8S
(312)
⑩
XXEV0004
XYN3 + F12S
⑫
⑬
⑦
XYN3 + F8S
XXEV0004
⑨
⑪
XTV3 + 6F
XTV3 + 6F
XYV3 + 8F
XTV3 + 6F
⑯
XTV3 + 6F
XTV3 + 6F
⑮
㉛
XUEV4VW
㉜
XWGV4D9G
㉔
㉕
㉗
㉖
⑰
㉘
㉙
㉚
⑭
XYN3 + C4S
㉑
⑲
⑳
XUEV4VW
㉑
⑲
⑳
XUEV4VW
⑱
⑭
XYN3 + C4S
XNG3ES
㉒
㉓
㊵
㊿
Ⓔ
SENSOR LED C.B.
XTV3 + 6F
㊶
㉝
㉞
XSN3D10S
Ⓔ A/C Head C.B.
XXE3A8FPS
XNG4ES
XYN3 + F8S
XWG4
㉟
㊱
㊲
㊳
㊴
㊷
(315)
XTV3 + 6F
XTV3 + 6F
㊸
XYN3 + C10S
XWGV4Y7G
㊺
XUC3FP
㊹
XUC25FP
㊻

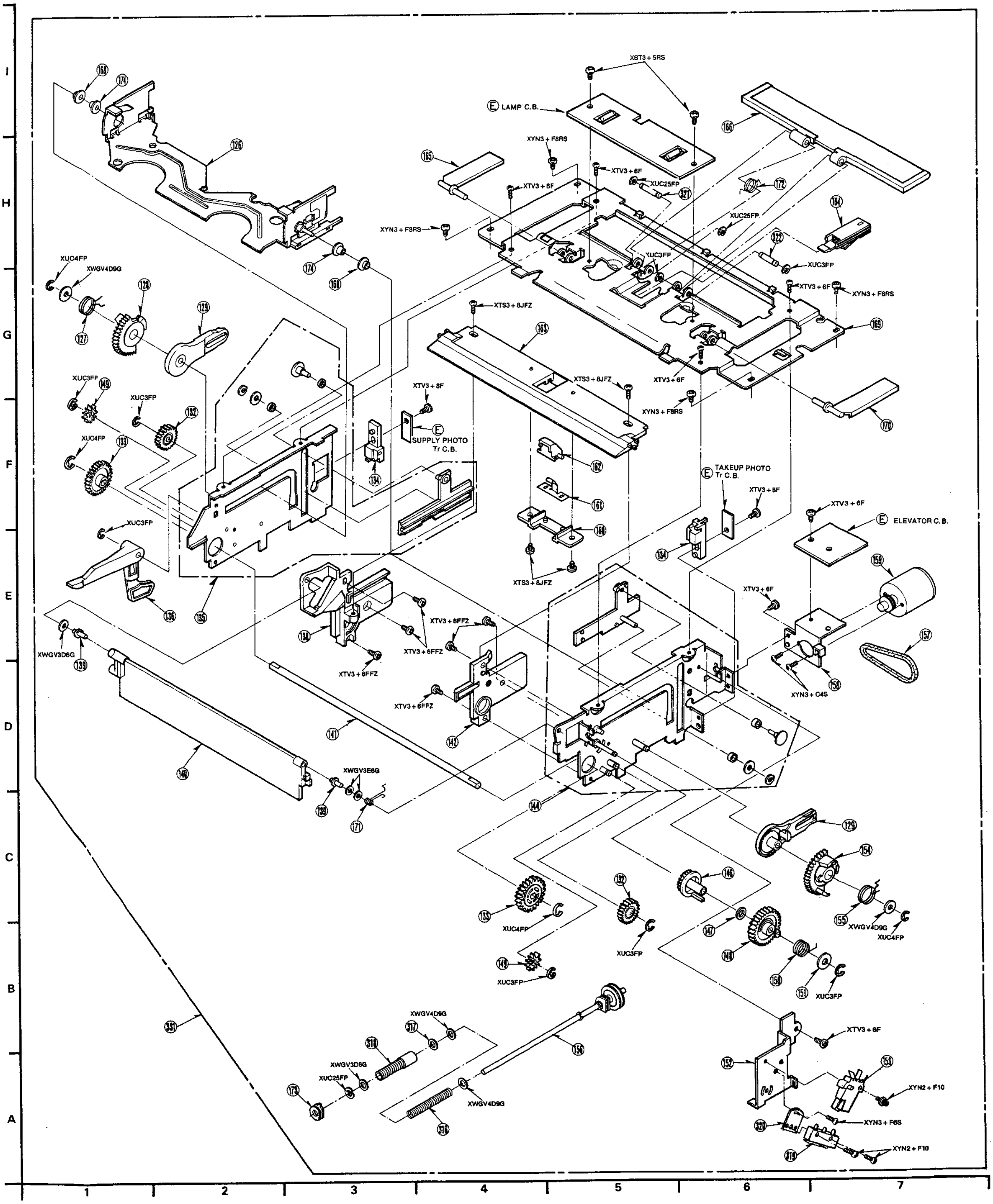
❷ *Moving Mechanical Section-(1)*


J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
XUEV3VW
(88)
(87)
(86)
(85)
(84)
XWGV3D6G
XYE3 + BF8
(57)
XUEV3VW
XWGV3D6G
(50)
XWGV3D6G
XUEV4VW
(54)
(51)
XWGV4D9G
XUEV3VW
XWGV3D6G
(55)
XWGV3D6G
XUEV4VW
(53)
(52)
(54)
XWGV4D9G
XUEV3VW
XWGV3D6G
(56)
XWGV3D6G
(49)
XYN3 + F6S
(89)
XTV3 + 6F
XYN4 + C8S
XTV3 + 6F
(90)
(58)
(188)
XTV3 + 8F
XYN3 + BF18
(83)
XYN3 + F8S
XYN3 + F8S
XUC25FP
(81)
(82)
(80)
XTV3 + 8F
XYN2 + C8
(79)
XUEV4VW
(62)
XUC25FP
(59)
(60)
(64)
(63)
XTV3 + 6F
(61)
(E)
FRONT CONNECTION C. B.
XTV3 + 6F
(65)
(66)
(65)
(67)
XSN3 + 10S
XWGV3D6G
(75)
XUEV3VW
XWGV4D9G
(76)
XUEV4VW
(72)
(73)
(74)
XWA3B
XNG3ES
(68)
(69)
(68)
XWGV4D9G
XUEV4VW
(70)
(71)
XUC3FP
XWGV4D9G
XUEV4VW
XWGV4D9G
XUEV4VW
XWGV4D9G
(77)
(78)
XUEV4VW

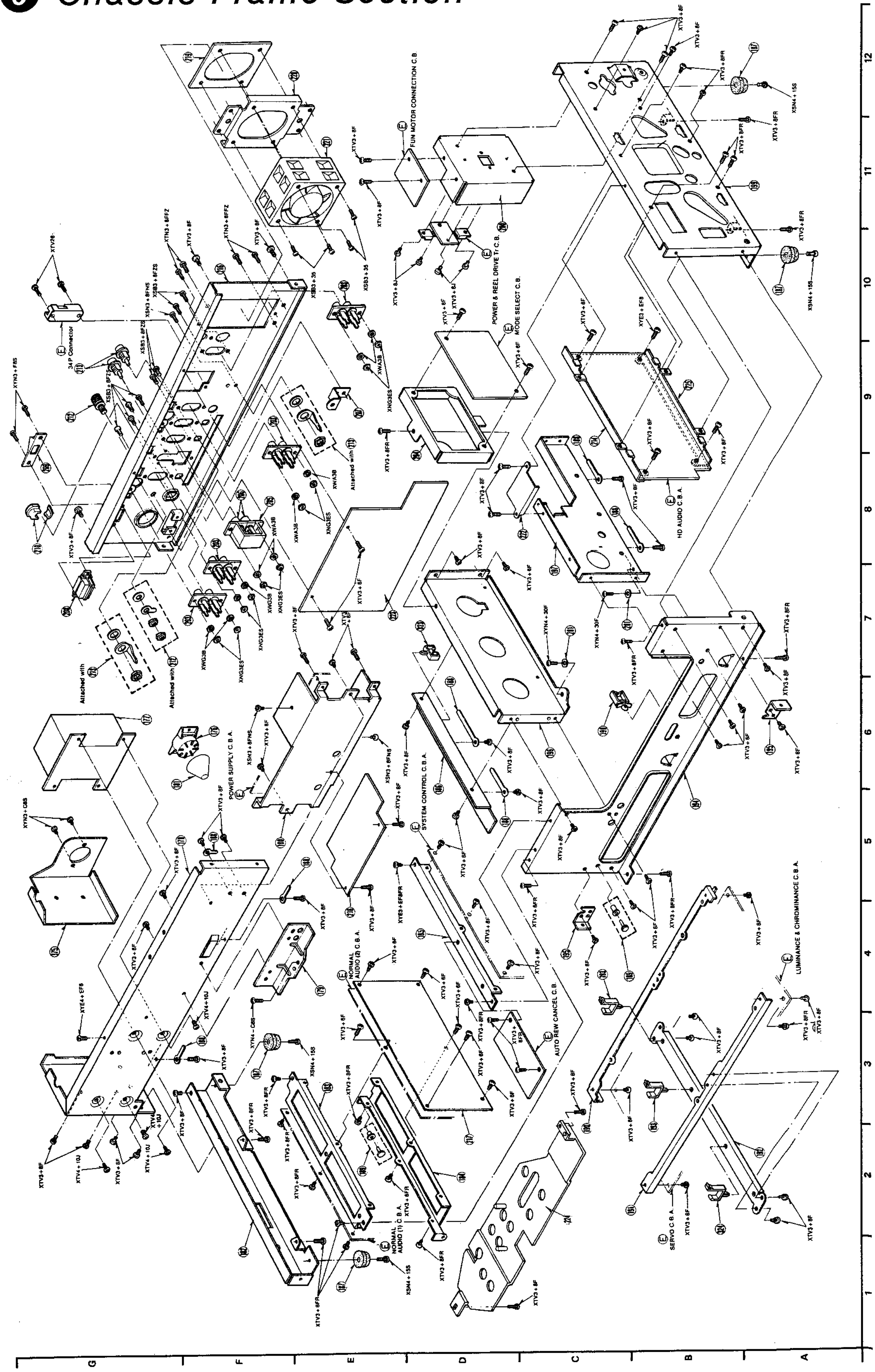
③ Moving Mechanical Section-(2)


J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
323
324
326
94
XTV3 + 6F
XUEV4VW
95
325
XWGV4D9G
99
XYN3 + C4S
100
XTV3 + 6F
101
E
MECHANISM CONNECTION C.B.
XTV3 + 6F
XWC3B
XUC3FP
98
XTV3 + 8F
124
XTV3 + 6F
102
XTV3 + 6F
XYN3 + C4S
XTV3 + 6F
XTV3 + 6F
XTV3 + 6F
XTV3 + 6F
103
XTV3 + 8F
XTV3 + 6F
104
XUC25FP
115
XSS3 + 4S
XTV3 + 8F
112
XTV3 + 8F
116
XWGV51F86C
117
118
119
XWGV3Z6G
XUC25FP
XTV3 + 10J
XUEV3VW
321
322
113
XTV3 + 8F
329
114
122
XWGV3D6G
121
XWGV3D6G
XUEV3VW
120
XWGV3D6G
105
XWGV3D6G
XUEV3VW
106
XWGV3D6G
110
XWGV3D6G
XUEV3VW
330
111
XTV3 + 8F
XTV3 + 8F
XTV3 + 8F
107
XTV3 + 8F
XTV3 + 6F
108
XYN3 + F6S
109
XTV3 + 6F
XYN3 + F6S
XWC3B
XYN3 + F10S

④ Front Loading Mechanism Section


I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
(168)
(174)
(126)
(174)
(160)
XUC4FP
XWGV4D9G
(128)
(127)
(129)
XUC3FP
(149)
XUC3FP
(132)
XUC4FP
(133)
XUC3FP
(136)
(135)
XWGV3D6G
(139)
(140)
(139)
XWGV3E6G
(171)
(141)
XTV3 + 8F
Ⓔ SUPPLY PHOTO Tr C.B.
(134)
(138)
XTV3 + 6FFZ
XTV3 + 6FFZ
XTV3 + 6FFZ
XTV3 + 6FFZ
(142)
(144)
XST3 + 5RS
Ⓔ LAMP C.B.
XYN3 + F8RS
(165)
XTV3 + 6F
XTV3 + 6F
XUC25FP
(321)
XYN3 + F8RS
(166)
(172)
XUC25FP
(164)
(322)
XUC3FP
XUC3FP
XTV3 + 6F
XYN3 + F8RS
(169)
XTS3 + 8JFZ
(163)
XTS3 + 8JFZ
XTV3 + 6F
XYN3 + F8RS
(170)
(162)
(161)
(160)
XTS3 + 8JFZ
Ⓔ TAKEUP PHOTO Tr C.B.
XTV3 + 8F
(134)
XTV3 + 6F
Ⓔ ELEVATOR C.B.
(159)
XTV3 + 6F
(157)
(158)
XYN3 + C4S
(129)
(154)
(146)
(133)
XUC4FP
(132)
XUC3FP
(149)
XUC3FP
(147)
(148)
(150)
(151)
XUC3FP
(155)
XWGV4D9G
XUC4FP
(331)
XWGV4D9G
(317)
(318)
XWGV3D6G
XUC25FP
(173)
(316)
XWGV4D9G
(156)
XTV3 + 6F
(152)
(153)
XYN2 + F10
(320)
XYN3 + F6S
(319)
XYN2 + F10

⑤ Chassis Frame Section


FUN MOTOR CONNECTION C.B.
POWER & REEL DRIVE Tr C.B.
MODE SELECT C.B.
HD AUDIO C.B.A.
34P Connector
Attached with
POWER SUPPLY C.B.A.
SYSTEM CONTROL C.B.A.
NORMAL AUDIO (2) C.B.A.
AUTO REW CANCEL C.B.
NORMAL AUDIO (1) C.B.A.
SERVO C.B.A.
LUMINANCE & CHROMINANCE C.B.A.
G
F
E
D
C
B
A
1
2
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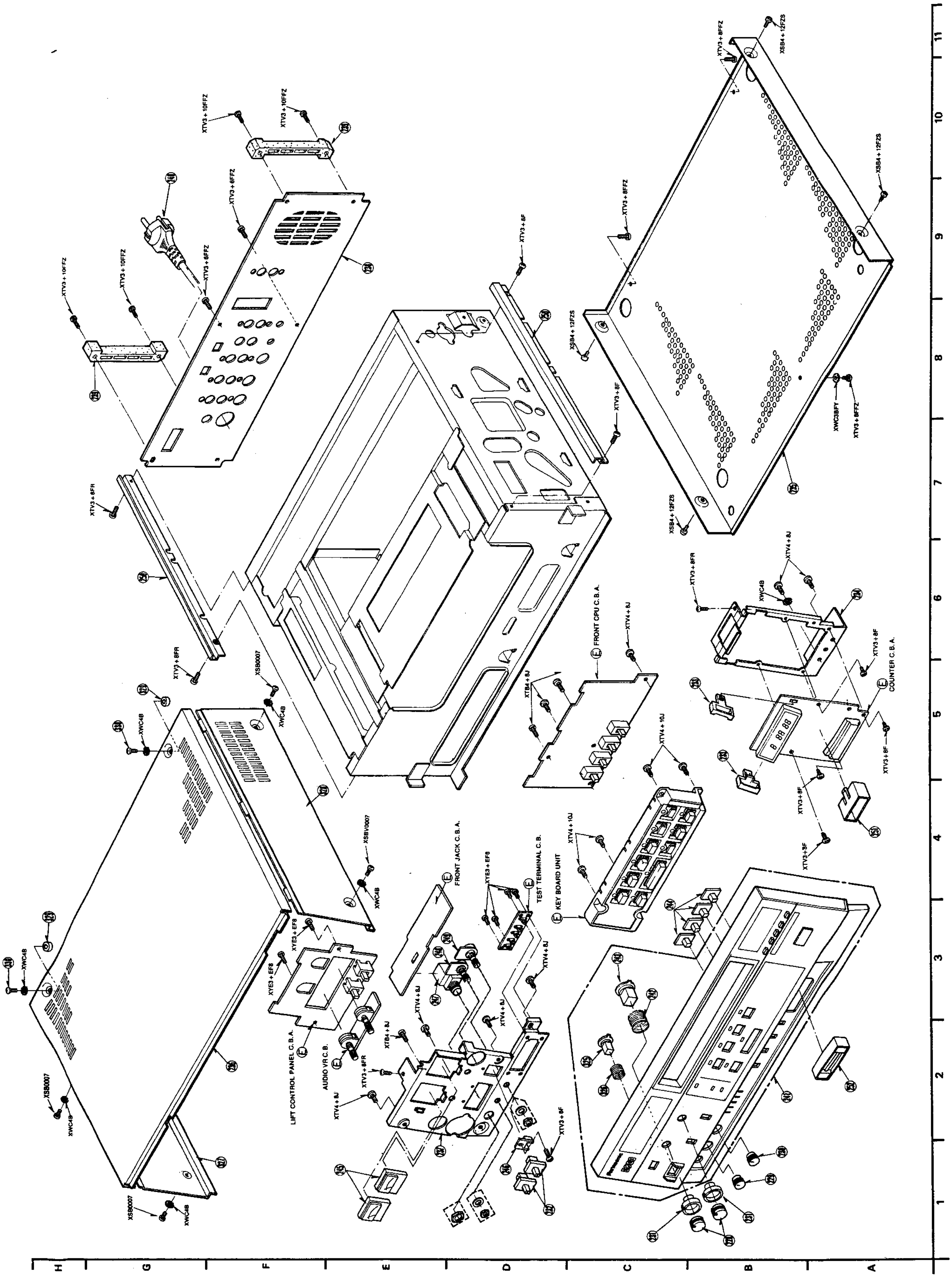
4
5
6
7
8
9
10
11
12

⑥ Casing Parts Section


XTV3+10FFZ
XTV3+10FFZ
XTV3+10FFZ
XTV3+10FFZ
XTV3+8FFZ
XTV3+8FFZ
XTV3+8FFZ
XSB4+12FZS
XTV3+8F
XSB4+12FZS
XTV3+8FFZ
XSB4+12FZS
XWC3BFY
XTV3+8FFZ
XTV3+8F
XSB4+12FZS
XTV3+8FR
XTV3+8FR
XSB0007
XWC4B
XWC4B
XTV3+8FR
XWC4B
XTV4+8J
Ⓔ FRONT CPU C.B.A.
XTV4+8J
XTB4+8J
XTV3+8F
Ⓔ COUNTER C.B.A.
XTV3+8F
XTV4+10J
XTV3+8F
XTV4+10J
XSBV0007
XWC4B
Ⓔ FRONT JACK C.B.A.
XYE3+EF8
Ⓔ TEST TERMINAL C.B.
Ⓔ KEY BOARD UNIT
XTV3+5F
XWC4B
XYE3+EF8
XYE3+EF8
XTV4+8J
XTV4+8J
XTV4+8J
XTB4+8J
XTV3+8FR
XTV4+8J
Ⓔ LIFT CONTROL PANEL C.B.A.
Ⓔ AUDIO VR C.B.
XTV3+8F
XSB0007
XWC4B
XSB0007
XWC4B
1
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11
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F
E
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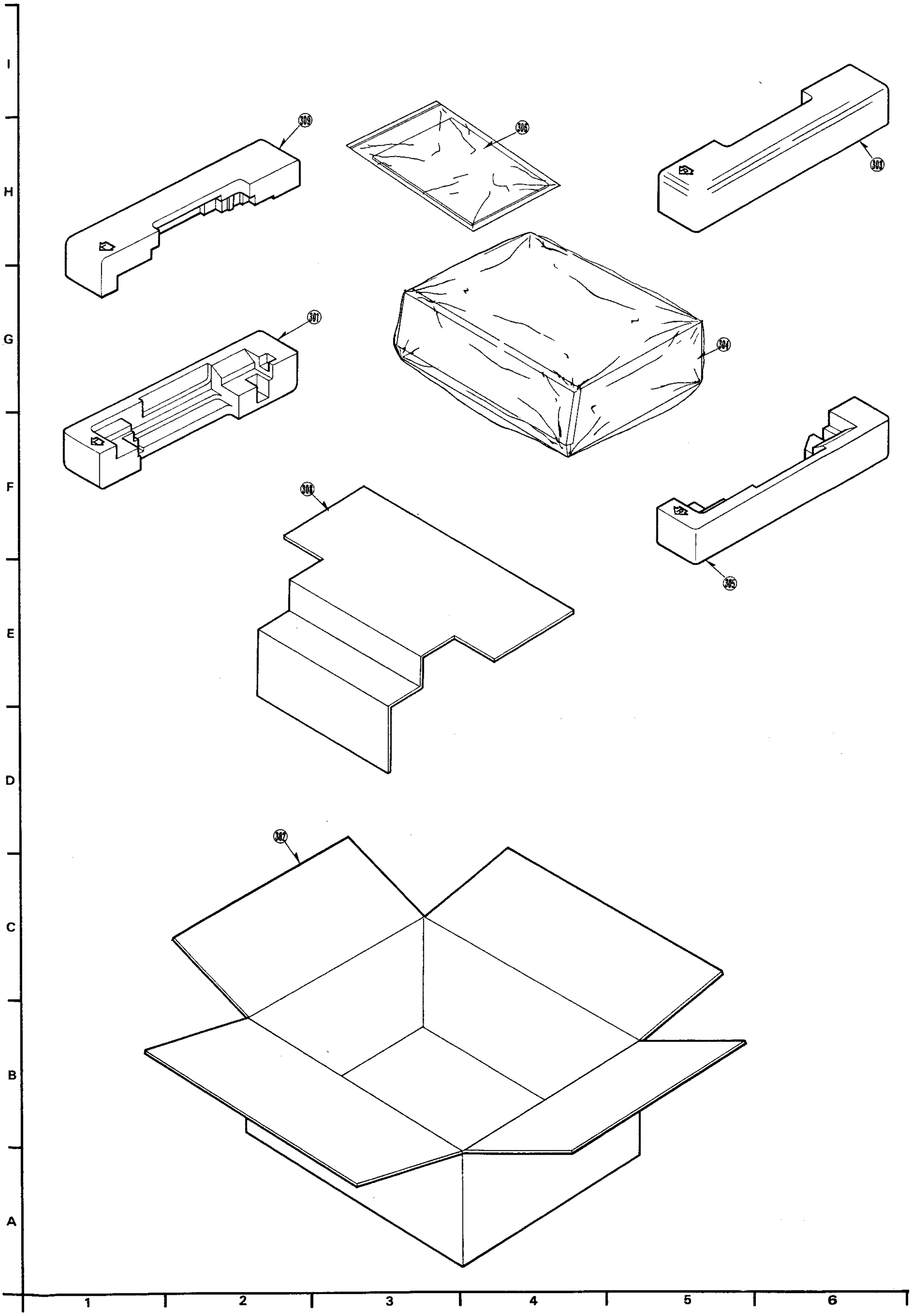
C
B
A

⑦ Packing Parts Section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302

Memo:

ORDER NO. VRD-8510-231
(Date of issue: SEP. 1985)

Dubbing Video Cassette Recorder

Replacement Parts List

National/Panasonic VHS Hi-Fi
Professional/Industrial Video

AG-6810S-E -A -B

Notes:

1. *Be sure to make your orders of replacement parts according to this list.
   *"R" in Remarke column indicates recomend parts.
2. IMPORTANT SAFETY NOTICE
   Components identified by "(!)" have special characteristics important for safety.
   When replacing any of these components, Use only the original ones.
   Meaning of simbol (!) on this parts list is exactly same as simbol ⚠ on Schematic and Circuit Board Diagrams.
3. Unless otherwise specified;
   All resistors are in OHMS (Ω), K = 1,000Ω, M = 1,000KΩ.
   All capacitors are in MICROFARADS (μF), P = μμF.
4. C.B.A. or C.B. marked with "■" show below the main assembld parts.
5. When ordering parts, use part No. only from Part No. column.
6. This parts list is detouchable from the Service Manual.

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1. SERVICING FIXTURES & TOOLS LIST

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VFM8180HMDH	VHS Alignment Tape	1	R
		VFK0138	Back Tension Motor	1	R (T2-H7-UM)
			(Tentelometer)	1	
		VFK0133	Dial Torque Meter	1	R
		VFK0180	Clamper for Dial Torqur	1	R
			Meter	1	
		VFK0134	Adaptor for Dial Torqur	1	R
			Meter	1	
		VFK0135	Eccentric Screwdriver	1	R
		VFK0136	Fine Adjustment screwdriver	1	R (3mm Phi)
		VFK0138	Post Adjustment Plate	1	R
		VFK0139	Reel Table Height Fixture	1	R
		VFK0144	Retaining Ring Remover	1	R (3mm Phi)
		VFK0145	Retaining Ring Remover	1	R (4mm Phi)
		VFK0146	Hex. Wrench	1	R (0.9mm Phi)
		VFK75	Hex. Wrench	1	R (1.25mm Phi)
		VFK76	Hex. Wrench	1	R (1.5mm Phi)
		VFK66	Fan Type Tension Gauge	1	R
		VFK0187	Tension Post Adj. Fixture	1	R
		VFK0189	H. Position Adj. Fixture	1	R
		VFK0137	Post Adj. Screwdriver	1	R
		VFK0268	Stator A. Adj. Jig	1	R
		MOR265	Morlytone Grease	1	R
		VFK27	Head Cleaning Stick	1	R

2. MECHANICAL REPLACEMENT PARTS LIST

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1(1)		VEH0300	Upper Cylinder Unit	1	R
2(1)		VEG0404	Cylinder Unit	1	R
3(1)		VXS0055	Slip Brush	1	R
4(1)		VBS0024	Erase Head	1	R
5(1)		VML1370	Erase Head Lever	1	
6(1)		VMB1005	Erase Head Spring	1	
7(1)		VXP0302B	Roller Post Unit (L)	1	R
8(1)		VXP0302C	Roller Post Unit (R)	1	R
9(1)		VXA1191	Inclind Base (S) Unit	1	
10(1)		VXA1084	Inclind Base (B) Unit	1	
11(1)		VXA1189	Shaft Holder (S) Unit	1	
12(1)		VXA1333	Shaft Holder (T) Unit	1	
13(1)		VMD0100	Post Stopper	2	
14(1)		VMA4436	Shaft Holder Stopper (A)	2	
15(1)		VHN0014	"X" adjust Nut	1	
16(1)		VXA1334	Loading Base (1) Unit	1	
17(1)		VXL0753	Loading Arm (L) Unit	1	
18(1)		VXL0861	Loading Arm (R) Unit	1	
19(1)		VMB0669	Loading Spring	2	
20(1)		VXP0505	Loading Gear Unit	2	
21(1)		VMX0257	Arm Sleeve	2	
22(1)		VMX0280	Post Sleeve	1	
23(1)		VMB0699	P4 Spring	1	
24(1)		VHD0045	Nut	1	
25(1)		VMX0297	Upper Limiter	1	
26(1)		VDP0759	Supply Roller	1	
27(1)		VMX0541	Collar	1	
28(1)		VMX0456	Lower Limiter (S)	1	
29(1)		VMX0571	Lower Limiter Roller	1	
30(1)		VMB0754	Supply Limiter Spring	1	
31(1)		VXP0324	Inertia Roller Unit	1	
32(1)		VMB0667	Inertia Roller Spring	1	
33(1)		VHD0054	Adjust Screw, A/C Head	1	
34(1)		VMB1251	Adjust Spring, A/C Head	1	
35(1)		VBR0069	A/C Head	1	R
36(1)		VXA1990	A/C Head Base Unit	1	
37(1)		VXA1438	A/C Head Base (B) Unit	1	
38(1)		VMA4289	Bar Nut	1	
39(1)		VMB0997	A/C Head Height Spring	1	
40(1)		VMD0145	LED Holder	1	
41(1)		VMA4795	LED Holder Angle	1	
42(1)		VXP0463	Idler Unit	1	R
43(1)		VXA1895	Reel Sensor Base (1) Unit	1	
44(1)		VML1433	Idler Stopper Lever	1	
45(1)		VMB1083	Idler Spring	1	
46(1)		VMB0882	Idler Stopper Spring	1	
47(1)		VXA1947	Stator Angle Unit	1	
48(1)		VXA1935	RT Rotor Base Unit	1	
49(2)		VMB1114	Tension Spring	1	
50(2)		VXL0974	Tension Arm Unit	1	R
51(2)		VXL1103	Brake Lever (L) Unit	1	R
52(2)		VXL1054	Brake Lever (R) Unit	1	R
53(2)		VMB0661	Brake Spring	1	
54(2)		VMB0660	Brake Arm Spring	2	
55(2)		VXR0109	Supply Reel Table Unit	1	R
56(2)		VXR0117	Takeup Reel Table Unit	1	R
57(2)		VXZ0129	Tension Band Unit	1	
58(2)		VMA4406	Chassis Bracket	1	
59(2)		VXL0873	Soft Brake (T) Unit	1	R
60(2)		VMB1211	Soft Brake Spring	1	
61(2)		VXA1855	Position Plate	1	
			(Rear, Right)		
62(2)		VXZ0170	Fixed Tension Brake Unit	1	R
63(2)		VMX0367	Fixed Brake Sleeve	1	
64(2)		VMB0886	Fixed Brake Spring	1	
65(2)		VMX0308	Slide Washer	3	
66(2)		VXL1104	Main Level (1) Unit	1	
67(2)		VMB0680	Adjust Spring	1	
68(2)		VMX0471	Slide Washer	3	
69(2)		VXL1106	Sub Level (1) Unit	1	
70(2)		VMB0890	Kick Lever Spring	1	
71(2)		VML1432	Kick Lever	1	
72(2)		VMX0268	Action Gear Sleeve	1	
73(2)		VDG0016	Action Gear	1	
74(2)		VMA4088	Action Gear Holder	1	
75(2)		VDG0017	Intermediate Gear	1	
76(2)		VDG0269	Cam Gear	1	R
77(2)		VXL0988	Sector Gear Unit	1	
78(2)		VMB0860	Sub Lever Spring	1	
79(2)		VXA1934	Brake Release Base Unit	1	
80(2)		VSM0043	Safety Tab Switch	1	R
81(2)		VXL0875	Soft Brake Release Unit	1	
82(2)		VMA6302	Cassette Support Angle	1	
83(2)		VMA5372	Nut Plate	1	
84(2)		VML1258	Soft Brake Lever A	1	
85(2)		VMB0885	Soft Brake Spring	1	
86(2)		VMB1210	Soft Brake Coil Spring	1	
87(2)		VXZ0110	Loading Brake Arm Unit	1	R
88(2)		VMX0249	Soft Brake Stopper	1	
89(2)		VMA5813	Adjust Hook	1	
90(2)		VMA6668	Position Plate	1	
94(3)		VXL1401	Pressure Roller Arm Unit	1	R
95(3)		VMB0880	Pressure Roller Arm Spring	1	R
98(3)		VML1554	Action Lever	1	
99(3)		VMA6224	Position Plate,	1	
			(Right, Front)		
100(3)		VEM0135	Loading Motor Unit	1	R
101(3)		VMA6059	Wiring Board Angle	1	
102(3)		VXA1436	P5 Post Base Unit	1	
103(3)		VEK1293	Dew Sensor Unit	1	R
104(3)		VXA1953	Opener Unit	1	
105(3)		VDP0735	Loading Intermediate	1	
			Pulley		
106(3)		VDV0122	Loading Belt (1)	1	R
107(3)		VMA6057	Mode Select Switch Angle	1	
			(B)		
108(3)		VMA6056	Mode Select Switch Angle	1	
			(A)		
109(3)		VSS0060	Mode Select Switch	1	R
110(3)		VDP0750	Idler Pulley	1	R
111(3)		VEM0164	DD Capstan Motor	1	R
112(3)		VXA1708	Reel Motor Brake (1) Unit	1	
113(3)		VMA6055	Earth Angle	1	
114(3)		KFN56FB8B	Reel Motor	1	R
115(3)		VDG0080	Kick Gear	1	
116(3)		VDG0081	Clutch Gear	1	
117(3)		VMX0405	Clutch Collar	1	
118(3)		VMB0897	Clutch Spring	1	
119(3)		VDP0850	Clutch Pulley	1	
120(3)		VDV0135	Loading Belt (2)	1	R
121(3)		VDP0849	Large Pulley (2)	1	
122(3)		VDV0138	Kick Pulley Beit	1	
124(3)		VMD0442	Brake Release Bracket	1	
126(4)		VXA2356	Cassette Holder Unit	1	
127(4)		VMB1310	Wiper Spring (L)	1	
128(4)		VDG0182	Wiper Gear (L)	1	R
129(4)		VML1712	Wiper Arm	2	R
132(4)		VDG0235	Large Intermediate Gear	2	
133(4)		VDG0119	Shaft Gear	2	
134(4)		VMD0091	Photo Tr Holder	2	
135(4)		VXA2354	Side Plate (L) Unit	1	
136(4)		VML1711	Front Opener Link	1	
138(4)		VMD0768	Front Guide (L)	1	
139(4)		VMS2350	Blinder Panel Shaft	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
140(4)		VKF0342	Blinder Panel	1	R
141(4)		VMS2304	Main Shaft	1	R
142(4)		VMD0767	Front Guide (R)	1	
144(4)		VXA2355	Side Plate (R) Unit	1	
146(4)		VDG0233	Clutch Gear	1	R
147(4)		VMX0531	Clutch Spacer	1	
148(4)		VDG0234	Warm Wheel	1	R
149(4)		VDG0236	Small Intermediate Gear	2	R
150(4)		VMB1402	Clutch Spring	1	
151(4)		VMX0530	Clutch Washer	1	
152(4)		VMA6702	Switch Angle	1	
153(4)		VSM0048	Switch	2	R
154(4)		VDG0183	Wiper Gear (R)	1	
155(4)		VMB1309	Wiper Spring (R)	1	
156(4)		VXP0670	Pulley Shaft Unit	1	
157(4)		VDV0144	Loading Belt	1	R
158(4)		VMA6193	Front Loading Motor Panel	1	
159(4)		MXN12AE10C	Front Loading Motor	1	R
160(4)		VMD0454	Spring Holder	1	
161(4)		VMB1091	Safety Tab Spring	1	
162(4)		VMD0453	Safety Tab Knob	1	
163(4)		VMD0452	Cassette Guide	1	
164(4)		VSM0047	Cassette In Switch	1	R
165(4)		VMD0492	Mirror Drive Panel (L)	1	
166(4)		VXA1795	Mirror Unit	1	
168(4)		VDP0944	Wiper Roller (S)	2	
169(4)		VMA6494	Top Plate	1	
170(4)		VMD0491	Mirror Drive Panel (R)	1	
171(4)		VMB1171	Blinder Spring	1	
172(4)		VMB1125	Mirror Spring	1	
173(4)		VDB0660	Warm Shaft Bearing	1	
174(4)		VDP0918	Cassette Holder Roller (S)	2	
175(5)		VMA6294	Power Transformer Angle	1	
176(5)		ESE37212	Voltage Selector	1	R
177(5)		VTP0098	Power Transformer	1	<!> R
178(5)		VMP0315	Center Frame (Side)	1	
179(5)		VMP0323	Chassis Angle	1	
180(5)		VSC0976	Heat Sink (A)	1	
181(5)		VMX0235	Voltage Selector Cover	1	
182(5)		VXA1932	Left frame Unit	1	
183(5)		VMP0330	Audio Board Angle (T)	1	
184(5)		VMP0331	Audio Board Angle (B)	1	
185(5)		VMP0326	System Control Board	1	
			Angle (T)		
186(5)		VMP0327	System Control Board	1	
			Angle (B)		
187(5)		VMG0172	Rubber Cushion	4	R
188(2,5)		VJR3	Clamper	7	
189(5)		VDB0358	Hook	2	
190(5)		VMP0318	Servo Board Angle (R)	1	
191(5)		VMP0316	Servo Board Angle (F)	1	
192(5)		VMP0317	Servo Board Angle (C)	1	
193(5)		VJF0045	Wire Clamper	2	
194(5)		VMP0322	Front Frame	1	
195(5)		VMP0312	Top Cover Angle	2	
196(5)		VMP0320	Center Frame (Left)	1	
197(5)		VMP0321	Center Frame (Right)	1	
198(5)		VJF0004	Wire Saddle	1	
199(5)		VXA2021	Right Frame Unit	1	
200(5)		VSC1095	Heat Sink (B)	1	
201(5)		VMX0508	Chassis Washer	2	
203(5)		VJJ0081	Phone Jack	4	R
204(5)		VMP0413	C.B. Angle	1	
205(5)		VMA5765	Jack Angle	1	
206(5)		VJJ0083	Phone Jack (C)	2	R
207(5)		VMP0733	C,B, Angle	1	
208(5)		EST15707V	Primary Power Switch	1	<!> R
209(5)		VGF0093	Primary Switch Cover	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
210(5)		VDB0293	AC Cord Bushing	1	<!>
212(5)		VJH0082	Terminal (GND)	1	
213(5)		VJS1440	BNC Connector	2	
214(5)		VMP0408	C.B. Angle (T)	1	
215(5)		VMP0407	C.B. Angle (B)	1	
216(5)		VMP0741	Rear Jack Angle	1	
217(5)		VSC1531	Shield Plate	1	
218(5)		VSC1114	Shield Plate	1	
219(5)		VMT0099	Fan Insulator	1	
220(5)		VMP0405	Fan Angle	1	
221(5)		EBP06B24LA	Fan Motor	1	R
222(5)		VMP0409	Support Angle	1	
223(5)		VSC1192	Rear Jack Plate Cover	1	R
224(5)		VGF0108	Chassis Bottom Cover	1	R
228(6)		VGT0227	Audio Level Knob (A)	2	R
229(6)		VGT0131	Headphone Level Knob	1	R
230(6)		VGT0131	Tracking Knob	1	R
231(6)		VGU1189	Audio Level Knob (B)	2	R
232(6)		VGT0334	Slide Switch Knob (A)	2	R
233(6)		VG00301	Display Tube Holder	2	
234(6)		VMP0491	Counter Board Angle	1	
235(6)		VKU0189	Bottom Cover	1	R
236(6)		VGM0128	Top Panel	1	R
237(6)		VMP0728	Left Control Board Angle	1	
238(6)		VGH0760	Decorative Jack Panel	1	
239(6)		VKA0034	Rubber Foot(B)	2	R
240(6)		VJA0169	AC Power Code	1	(E) only R
240(6)		VJA0074	AC Power Code	1	(B) only R
240(6)		VJA0087	AC Power Code	1	(A) only R
241(6)		VYP1460	Front Panel (1) Unit	1	For AG-6810S(E,B) R
241(6)		VYP1461	Front Panel (1) Unit	1	For AG-6810S(A) R
242(6)		VMB0905	Buttom Spring (B)	1	
243(6)		VGU0272	Power Switch Button	1	R
244(6)		VGT0335	Slide Switch Knob (B)	4	R
245(6)		VSE0063	Audio Level Meter	2	R
246(6)		VG00559	Switch Angle	1	
247(6)		VJJ0094	Head Phone Jack	1	R
248(6)		EWKH1AY15B14	Head Phone VR	1	R
249(6)		EWKH1AY15B15	Tracking VR	1	R
250(6)		VXA2387	Support Angle	2	
251(6)		VJF0303	LED Holder	1	
252(6)		VSE0064Z	Hour Meter	1	R
301(7)		VPN0922	Cushion(Left,Bottom)	1	R
302(7)		VPG2340	Packing Case	1	(E) only R
302(7)		VPG2341	Packing Case	1	(A) only R
302(7)		VPG2342	Packing Case	1	(B) only R
303(7)		VPN0919	Cushion (Right,Top)	1	R
304(7)		VPF0114	Poly,Bag	1	
305(7)		VPN0921	Cushion (Right,Bottom)	1	R
306(7)		VQF1589	Fan Bag	1	For AG-6810S(E,B) R
306(7)		VQF1590	Fan Bag	1	For AG-6810S(A) R
308(7)		VPN0942	Pad	1	
309(7)		VPN0920	Cushion (Left,Top)	1	R
312(1)		VMX0734	Guide Snap	1	
320(3)		VEM0247	Reel Moter Unit	1	
321(3)		VDP1042	Reel Moter Pulley	1	R
322(3)		VMX0921	Reel Moter Spacer	1	
323(3)		VHN0051	Pressure Roller Screw	1	
324(3)		VXG0013	Pressure Roller	1	R
325(3)		VMA6069	Pressure Spring Plate	1	
326(3)		VXL1400	Pressure Arm Unit	1	
330(3)		VMX0937	Capstan Spacer	1	

3. ELECTRICAL REPLACEMENT PARTS LIST

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP01138D1	POWER SUPPLY C.B.A.	1	R <!>
			SUB SYSTEM CONTROL C.B.A.		R
		VEP02212D	SERVO, AUDIO CONTROL &	1	R
			SUB SYSTEM CONTROL C.B.A.		
		VEP03164H	LUMINANCE & CHROMINANCE	1	R
			C.B.A.		
		VJB00G43	AGC CANCEL SWITCH C.B.A	1	(PART OF VEP03164H) R
		VEP04115B1	HD AUDIO C.B.A.	1	R
		VEP04116B	NORMAL AUDIO (1) C.B.A.	1	R
		VEP04118B	NORMAL AUDIO (2) C.B.A.	1	R
		VEP06279C	FRONT CPU C.B.A.	1	R
		VEP06280A1	COUNTER C.B.A.	1	R
		VEP06281B1	SYSTEM CONTROL C.B.A.	1	R
		VJB00G36	TENSION SELECT C.B.A	1	(PART OF VEP06281B1) R
		VJB00F74	AUTO REW CANCEL CB	1	R
				1	R
		VEP06219D	34P CONNECTOR C.B.A.	1	R
		VEP00E78A	FRONT JACK C.B.A.	1	R
		VEP00E95A	REAR JACK PANEL C.B.A.	1	R
		VEP00E96A	LEFT CONTROL PANEL C.B.A.	1	R
					R
		ESB9479	KEY BOARD UNIT	1	R
		VJB00636	SUPPLY PHOTO TR. C.B.	1	
		VJB00636	TAKEUP PHOTO TR. C.B.	1	
		VJB00639	SENSOR LED C.B.	1	
		VJB00931	REEL SENSOR C.B.	1	
		VJB00A19	POWER & REEL DRIVE TR C.B.	1	
		VJB00A40	FRONT CONNECTION C.B.	1	
		VJB00A41	MECHANISM CONNECTION C.B.	1	
		VJB00B53	AUDIO VR C.B.	1	
		VJB00C96	ELEVETOR CONNECTION C.B.	1	
		VJB00C97	LAMP C.B.	1	
		VJB00E97	MODE SELECT C.B.	1	
		VJB00F11	TEST TERMINAL C.B.	1	
		VJB00F28	FUN MOTOR CONNECTION C.B.	1	
		VJB00F29	T.C. CONECTION C.B.	1	
		VTP0098	POWER TRANCEFORMER	1	R
			FUSE		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
F1001		XBA2C16TB0	250V 1.6A	1	<!>
F1002		XBA2C25TB0	250V 2.5A	1	<!> R
F1003,1004		XBA2C31TB0	250V 3.1A	2	<!> R
	■	VEP01138D1	POWER SUPPLY C.B.A.		
			TRANSISTORS		
Q1001		2SD639		1	(Q,R) R
Q1002		2SB943		1	(P,Q,R) OR
					2SB944 (P,Q,R) R <!>
Q1003		2SD639		1	(Q,R) R
Q1004		2SD637		1	(Q,R) R
Q1006		2SD639		1	(Q,R)
Q1007		2SB943		1	(P,Q,R) OR
					2SB944 (P,Q,R) R <!>
Q1008		2SD639		1	(Q,R)
Q1009		2SD637		1	(Q,R)
Q1010		2SD636		1	(Q,R)
Q1013		8P2M		1	R
			DIODES		
D1001-1003		S4VB10		3	<!> R
D1004		RD5.6EB3	ZENER	1	R
D1005		RD2.7EB	ZENER	1	R
D1006,1007		MA165		2	R
D1008		RD16EB	ZENER	1	R
D1009		RD6.2EB	ZENER	1	R
D1010,1011		MA165		2	
D1012		RD33EB	ZENER	1	R
D1014,1015		MA165		2	
D1016		MA27T		1	
			RESISTORS		
R1001		ERDS2TJ471	470	1	
R1002,1003		ERDS2TJ821	820	2	
R1004		ERDS2TJ101	100	1	
R1005		ERDS2TJ331	330	1	
R1006		EVN32CA00B52	VARIABLE 500	1	
R1007		ERDS2TJ391	390	1	
R1008		ERDS2TJ222	2.2K	1	
R1009		ERDS2TJ562	5.6K	1	
R1010		ERDS2TJ332	3.3K	1	
R1011,1012		ERDS2TJ152	1.5K	2	
R1013		ERDS2TJ182	1.8K	1	
R1014		ERDS2TJ122	1.2K	1	
R1015		EVN32CA00B52	VARIABLE 500	1	
R1016		ERDS2TJ152	1.5K	1	
R1017,1018		ERDS2TJ103	10K	2	
R1019		ERDS2TJ472	4.7K	1	
R1020		ERDS2TJ471	470	1	
			CAPACITORS		
C1001		ECQE2A224MW	MYLAR 200V 0.02	1	<!> R
C1002		ECET25R682SW	ELECTROLYTIC 25V 6800	1	
C1003,1004		ECET35R472SW	ELECTROLYTIC 35V 4700	2	
C1005		ECEA1AS221	ELECTROLYTIC 10V 220	1	
C1006		ECEA1CS101	ELECTROLYTIC 16V 100	1	
C1007		ECKF1H681KB	CERAMIC 50V 680P	1	
C1008		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C1009		ECEA1AS221	ELECTROLYTIC 10V 220	1	
C1010		ECEA1HSR47	ELECTROLYTIC 50V 0.47	1	
C1011		ECEA1VS101	ELECTROLYTIC 35V 100	1	
C1012		ECEA1ES101	ELECTROLYTIC 25V 100	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C1013		ECKF1H681KB	CERAMIC 50V 680P	1	
C1014		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C1015		ECEA1ES331	ELECTROLYTIC 25V 330	1	
C1016		ECEA1ES101	ELECTROLYTIC 25V 100	1	
C1017		ECEA1HS010	ELECTROLYTIC 50V 1	1	
			COIL		
L1001		VTQ0006		1	<!>
			CONNECTORS		
P1001		VJP1231	4P	1	
P1002		VJP1232	5P	1	
P1003		VJP1230	3P	1	
P1004		VJP1229	2P	1	
P1005		VJP1231	4P	1	
P1006		VJP1233	6P	1	
P1007		VJP1235	8P	1	
P1008		VJP1230	3P	1	
P1009		VJP1229	2P	1	
P1010		VJP1141		1	
			MISCELLANEOUS		
		SJT777	POWER CORD TERMINAL	1	<!>
		VJS0039	FUSE HOLDER	1	<!>
		VSC0976	HEAT SINK	1	
		VSC1114	SHILELD PLATE	1	
	■		SERVO, AUDIO CONTROL &		
		VEP02212D	SUB SYSTEM CONTROL C.B.A.		
			INTEGRATED CIRCUITS		
IC2001		AN6359N		1	R
IC2002		AN6677		1	R
IC2003		AN6346N		1	R
IC2004		MN6168VIA		1	R
IC2005		AN640G		1	R
IC2006		AN6342N		1	R
IC2007		UPD1511AC052		1	R
IC2008		UPC358C		1	OR NJM2904D R
IC2009		UPC358C		1	OR NJM2904D
IC2013		UPC393C		1	R
IC2014		UPD4013BC		1	OR MN4013B
IC2401		UPD4013BC			OR MN4013B
IC2402		UPC339C		1	OR AN6912,NJM2901
IC2403		UPC393C		1	
IC2601		PU4310		1	R
			TRANSISTORS		
Q2003-2006		2SB641		4	(Q,R) R
Q2007		2SD636		1	(Q,R) R
Q2008-2010		2SB641		3	(Q,R)
Q2011		2SD636		1	(Q,R)
Q2012		2SB641		1	(Q,R)
Q2013		2SD1266		1	(P,Q) R
Q2017		2SD636		1	(Q,R)
Q2022,2023		2SD636		2	(Q,R)
Q2025		2SD636		1	(Q,R)
Q2027		2SB941		1	(P,Q)
Q2029		2SB941		1	(P,Q)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q2031		2SB941		1	(P,Q) R
Q2032-2034		2SD1266		3	(P,Q)
Q2035		2SD636		1	(Q,R)
Q2041		2SD636		1	(Q,R)
Q2042		2SC641		1	
Q2043		2SD636		1	(Q,R)
Q2044		2SC641		1	
Q2045		2SA886V		1	(P,Q,R) R
Q2051		2SD636		1	(Q,R)
Q2080		2SD636		1	(Q,R)
Q2401		2SB641		1	(Q,R)
Q2402		2SD636		1	(Q,R)
Q2407-2409		2SD636		3	(Q,R)
Q2410		2SD973		1	(Q,R)
Q2419		2SB643		1	(Q,R)
Q2420		2SB819		1	(Q,A,U)
Q2421		2SD636		1	(Q,R)
Q2423		2SD639		1	(Q,R)
Q2424		2SD636		1	(Q,R)
Q2601		2SD636		1	(Q,R)
Q2602		2SB819		1	(Q,A,U) R
Q2603		2SD636		1	(Q,R)
Q2604		2SB819		1	(Q,A,U)
Q2605-2618		2SD636		14	(Q,R)
			COMBINATION PARTS		
			(TRANSISTORS & RESISTOR)		
QR2001-		UN1213		8	OR DTC144A R
2008					
QR2009		UN1217		1	OR DTC124A R
QR2010-		UN1213		3	OR DTC144A
2012					
QR2013		UN1217		1	OR DTC124TA
QR2014,		UN1213		2	OR DTC144A
2015					
QR2016		UN1211		1	OR DTC114A R
QR2401		UN1213		1	OR DTC144A
QR2402		UN1211		1	OR DTC114A
QR2403		UN1213		1	OR DTC144EA
QR2404		UN1213		1	OR DTC144EA
QR2405		UN1212		1	OR DTC124A R
QR2406		UN1213		1	OR DTC144A
QR2407		UN1212		1	OR DTC124A
QR2408		UN1212		1	OR DTC124A
QR2409		UN1212		1	OR DTC144A
QR2410		UN1212		1	OR DTC144A
QR2601		UN1212		1	OR DTC124A
			DIODES		
D2001-2004		MA165		4	R
D2009,2010		MA165		2	
D2012		MA165		1	
D2013-2015		10E1		3	R
D2019-2021		MA165		3	
D2022		RD6.2EB	ZENER	1	R OR MA1062M
D2023,2024		MA165		2	
D2026-2029		MA165		4	
D2031-2036		MA165		6	
D2039		MA165		1	
D2045-2057		MA165		13	
D2059-2062		MA165		4	
D2064		MA165		1	
D2401		MA165		1	
D2405		RD5.6EB3	ZENER	1	R
D2409		MA165		1	
D2415		MA165		1	
D2417-2427		MA165		11	
D2430		MA165		1	
D2601		MA1110		1	R
D2602		10E1		1	
D2603-2607		MA165		5	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			RESISTORS		
R2006		ERDS2TJ103	10K	1	
R2010		ERDS2TJ563	56K	1	
R2012		ERDS2TJ104	100K	1	
R2013		ERDS2TJ105	1M	1	
R2014		ERDS2TJ332	3.3K	1	
R2015		ERDS2TJ563	56K	1	
R2016		ERDS2TJ560	56	1	
R2017,2018		ERDS2TJ103	10K	2	
R2019,2020		ERDS2TJ473	47K	2	
R2021		ERDS2TJ563	56K	1	
R2022		ERDS2TJ473	47K	1	
R2023		ERDS2TJ562	5.6K	1	
R2024		ERDS2TJ223	22K	1	
R2025		ERDS2TJ823	82K	1	
R2026		ERDS2TG103	10K	1	
R2027		ERDS2TG123	12K	1	
R2028		ERDS2TG683	68K	1	
R2029,2030		ERDS2TJ154	150K	2	
R2031		ERDS2TJ124	120K	1	
R2032		ERDS2TJ333	33K	1	
R2033		ERDS2TJ272	2.7K	1	
R2034		ERDS2TJ224	220K	1	
R2035		ERDS2TJ333	33K	1	
R2036		ERDS2TJ103	10K	1	
R2037		ERDS2TJ683	68K	1	
R2038,2039		ERDS2TJ103	10K	2	
R2040,2041		ERDS2TJ332	3.3K	2	
R2052-2054		ERDS2TJ220	22	3	
R2055		ERX12ANJ1R0	METAL 1/2W 1	1	
R2056		ERDS2TJ124	120K	1	
R2057		ERDS2TJ153	15K	1	
R2058		ERDS2TJ103	10K	1	
R2060		ERDS2TJ682	6.8K	1	
R2061		EVM38GA00B54	VARIABLE 50K	1	
R2062		ERDS2TJ682	6.8K	1	
R2063		EVM38GA00B54	VARIABLE 50K	1	
R2064		EVM38GA00B15	VARIABLE 100K	1	
R2065		ERDS2TJ103	10K	1	
R2066		ERDS2TJ104	100K	1	
R2067		ERDS2TJ103	10K	1	
R2068		ERDS2TJ222	2.2K	1	
R2069		ERDS2TJ101	100	1	
R2070		ERDS2TJ102	1K	1	
R2073		ERDS2TJ823	82K	1	
R2074		ERDS2TJ184	180K	1	
R2075		ERDS2TJ682	6.8K	1	
R2076		ERDS2TJ393	39K	1	
R2077		ERDS2TJ334	330K	1	
R2081,2082		ERDS2TJ103	10K	2	
R2083		ERDS2TJ473	47K	1	
R2084		ERDS2TJ104	100K	1	
R2085		ERDS2TG563	56K	1	
R2086		ERDS2TG103	10K	1	
R2089		ERDS2TG821	820	1	
R2090		ERDS2TJ471	470	1	
R2091		ERDS2TJ472	4.7K	1	
R2092		ERDS2TG471	470	1	
R2093		ERDS2TJ104	100K	1	
R2094		ERDS2TJ102	1K	1	
R2099		ERDS2TJ472	4.7K	1	
R2100		ERDS2TJ333	33K	1	
R2102		ERDS2TJ103	10K	1	
R2103		ERG12ANJ820	METAL 1/2W 82	1	
R2104		ERDS2TJ103	10K	1	
R2105		ERG12ANJ820	METAL 1/2W 82	1	
R2106		ERDS2TJ103	10K	1	
R2107		ERG12ANJ820	METAL 1/2W 82	1	
R2108-2111		ERDS2TJ151	150	4	
R2112		ERDS2TJ103	10K	1	
R2113		ERDS2TJ151	150	1	
R2114		ERDS2TJ103	10K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R2115		ERDS2TJ151	150	1	
R2116		ERDS2TJ103	10K	1	
R2117		ERDS2TJ123	12K	1	
R2120		ERDS2TJ563	56K	1	
R2123		ERDS2TJ473	47K	1	
R2124		ERDS2TJ151	150	1	
R2150-2154		ERDS2TJ333	33K	5	
R2155		ERDS2TJ104	100K	1	
R2157		ERDS2TJ333	33K	1	
R2158		ERDS2TJ561	560	1	
R2160,2161		ERDS2TJ103	10K	2	
R2163		ERDS2TJ224	220K	1	
R2165		ERDS2TJ563	56K	1	
R2166,2167		ERDS2TJ103	10K	2	
R2168		ERDS2TJ122	1.2K	1	
R2169		ERDS2TJ470	47	1	
R2170		ERDS2TJ681	680	1	
R2174-2176		ERDS2TJ332	3.3K	3	
R2177,2178		ERDS2TJ103	10K	2	
R2179		ERDS2TJ104	100K	1	
R2180		ERDS2TJ103	10K	1	
R2192		ERDS2TJ103	10K	1	
R2193		ERDS2TJ152	1.5K	1	
R2201		ERDS2TJ102	1K	1	
R2202		ERDS2TJ223	22K	1	
R2203		ERDS2TJ471	470	1	
R2204		ERDS2TJ562	5.6K	1	
R2205		ERDS2TJ474	470K	1	
R2206,2207		ERDS2TJ103	10K	2	
R2208		ERDS2TJ474	470K	1	
R2209		ERDS2TJ562	5.6K	1	
R2210		ERDS2TJ391	390	1	
R2211		ERDS2TJ223	22K	1	
R2212		ERDS2TJ471	470	1	
R2228		ERDS2TJ103	10K	1	
R2229		ERDS2TJ472	4.7K	1	
R2230		ERDS2TJ152	1.5K	1	
R2231		ERDS2TJ332	3.3K	1	
R2232		ERDS2TJ821	820	1	
R2234,2235		ERDS2TJ333	33K	2	
R2236		ERDS2TJ391	390	1	
R2243		ERDS2TJ184	180K	1	
R2244,2245		ERDS2TJ103	10K	2	
R2254		ERDS2TJ103	10K	1	
R2256		ERDS2TJ392	3.9K	1	
R2257		ERX1ANJR82	METAL 1W 0.82	1	
R2258		ERDS2TJ563	56K	1	
R2259		ERDS2TJ153	15K	1	
R2262		ERDS2TJ104	100K	1	
R2272		ERDS2TJ103	10K	1	
R2296		ERDS2TJ224	220K	1	
R2300		ERDS2TJ103	10K	1	
R2301		ERDS2TJ823	82K	1	
R2302		ERDS2TJ333	33K	1	
R2303-2305		ERDS2TJ471	470	3	
R2306		ERDS2TJ102	1K	1	
R2307		ERDS2TJ103	10K	1	
R2311		ERDS2TJ823	82K	1	
R2312		ERDS2TJ333	33K	1	
R2313		ERDS2TJ104	100K	1	
R2314		ERDS2TJ333	33K	1	
R2315		ERDS2TJ334	330K	1	
R2316		ERDS2TJ223	22K	1	
R2317		ERDS2TJ104	100K	1	
R2318		ERDS2TJ333	33K	1	
R2321		ERDS2TJ333	33K	1	
R2323		ERDS2TJ222	2.2K	1	
R2356		ERDS2TJ822	8.2K	1	
R2360		ERDS2TJ104	100K	1	
R2373		ERQ12HJ1R8	1.8	1	<!>
R2401		EROS2CHG4702	METAL 47K	1	
R2402		EVM38GA00B15	VARIABCE 100K	1	
R2403		ERDS2TJ101	100	1	
R2404		ERDS2TJ563	56K	1	
R2405		ERDS2TJ333	33K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R2406		ERDS2TJ272	2.7K	1	
R2407		ERDS2TJ103	10K	1	
R2408		ERDS2TJ333	33K	1	
R2409,2410		ERDS2TJ473	47K	2	
R2411		ERDS2TJ223	22K	1	
R2412		ERDS2TJ105	1M	1	
R2413		ERDS2TJ103	10K	1	
R2415		ERDS2TJ103	10K	1	
R2421		ERDS2TJ182	1.8K	1	
R2422		ERDS2TJ471	470	1	
R2423		ERDS2TJ222	2.2K	1	
R2426		ERDS2TJ333	33K	1	
R2431		ERDS2TJ332	3.3K	1	
R2434		ERDS2TJ103	10K	1	
R2435		ERDS2TJ123	12K	1	
R2439		ERDS2TJ123	12K	1	
R2440		ERDS2TJ473	47K	1	
R2443-2445		ERDS2TJ104	100K	3	
R2446,2447		ERDS2TJ223	22K	2	
R2448		ERDS2TJ332	3.3K	1	
R2449		ERDS2TJ154	150K	1	
R2450		ERDS2TJ272	2.7K	1	
R2454		ERDS2TJ333	33K	1	
R2456		ERDS2TJ104	100K	1	
R2457		ERDS2TJ223	22K	1	
R2459		ERDS2TJ333	33K	1	
R2460,2461		ERDS2TJ563	56K	2	
R2472		ERDS2TJ182	1.8K	1	
R2475		ERDS2TJ472	4.7K	1	
R2476		ERDS2TJ332	3.3K	1	
R2477		ERDS2TJ562	5.6K	1	
R2478		ERDS2TJ683	68K	1	
R2479-2482		ERDS2TJ103	10K	4	
R2483		ERDS2TJ683	68K	1	
R2486		ERDS2TJ333	33K	1	
R2487		ERDS2TJ473	47K	1	
R2489		ERDS2TJ153	15K	1	
R2490		ERDS2TJ564	560K	1	
R2491		ERDS2TJ103	10K	1	
R2492		ERDS2TJ564	560K	1	
R2493		ERDS2TJ103	10K	1	
R2494		ERDS2TJ222	2.2K	1	
R2495		ERDS2TJ103	10K	1	
R2496		ERDS2TJ683	68K	1	
R2498		ERDS2TJ154	150K	1	
R2499		ERDS2TJ124	120K	1	
R2500		ERDS2TJ683	68K	1	
R2501		ERDS2TJ222	2.2K	1	
R2502		ERDS2TJ333	33K	1	
R2503		ERDS2TJ333	33K	1	
R2504		ERDS2TJ273	27K	1	
R2601,2602		ERDS2TJ102	1K	2	
R2603		ERG1ANJ101	METAL 1W 100	1	
R2604		ERDS2TJ182	1.8K	1	
R2605		ERDS2TJ123	12K	1	
R2606,2607		ERDS2TJ103	10K	2	
R2608,2609		ERDS2TJ104	100K	2	
R2610		ERDS2TJ562	5.6K	1	
R2611		ERDS2TJ103	10K	1	
R2612-2614		ERDS2TJ104	100K	3	
R2615		ERDS2TJ105	1M	1	
R2616		ERDS2TJ104	100K	1	
R2617,2618		ERDS2TJ563	56K	2	
R2619		ERDS2TJ272	2.7K	1	
R2620		ERDS2TJ562	5.6K	1	
R2621		ERDS2TJ563	56K	1	
R2622		ERDS2TJ274	270K	1	
R2623		ERDS2TJ104	100K	1	
R2624		ERDS2TJ274	270K	1	
R2625		ERDS2TJ563	56K	1	
R2626		ERDS2TJ222	2.2K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R2627		ERDS2TJ334	330K	1	
R2628		ERDS2TJ103	10K	1	
R2629,2630		ERDS2TJ564	560K	2	
R2631		ERDS2TJ563	56K	1	
R2632,2633		ERDS2TJ564	560K	2	
R2634		ERDS2TJ102	1K	1	
R2635		ERDS1TJ221	220	1	
R2636,2637		ERDS2TJ102	1K	2	
R2638		ERX1ANJ1R0	METAL 1W 1	1	
R2639,2640		ERDS2TJ102	1K	2	
R2641		ERDS1TJ221	220	1	
R2642		ERDS2TJ222	2.2K	1	
R2643		ERDS2TJ103	10K	1	
R2645		ERDS2TJ102	1K	1	
			RASISTOR ARRAY		
RA2001		EXBP84103K	10K X 4	1	
			CAPACITORS		
C2003		ECEA1HU010	ELECTROLYTIC 50V 1	1	
C2004		ECKF1H472KB	CERAMIC 50V 4700P	1	
C2005		ECQV1H823JZ	MYLAR 50V 0.082	1	
C2006		ECQM1H223KV	MYLAR 50V 0.022	1	
C2007		ECEA0JU470	ELECTROLYTIC 6.3V 47	1	
C2008		ECEA1HN010S	ELECTROLYTIC 50V 1	1	
C2009		ECEA1CN100S	ELECTROLYTIC 16V 10	1	
C2010		ECEA0JU470	ELECTROLYTIC 6.3V 47	1	
C2011		ECQM1H562KV	MYLAR 50V 5600P	1	
C2012		ECQV1H104JZ	MYLAR 50V 0.1	1	
C2013		ECQM1H562KV	MYLAR 50V 5600P	1	
C2014		ECEA1CU101	ELECTROLYTIC 16V 100	1	
C2015		ECEA1EN3R3S	ELECTROLYTIC 25V 3.3	1	
C2016		ECEA1HU2R2	ELECTROLYTIC 50V 2.2	1	
C2017		ECQM1H103KV	MYLAR 50V 0.01	1	
C2018-2020		ECEA1HN010S	ELECTROLYTIC 50V 1	3	
C2021		ECQM1H333KV	MYLAR 50V 0.033	1	
C2022		ECEA1HU3R3	ELECTROLYTIC 50V 3.3	1	
C2023-2025		ECEA50ZR22	ELECTROLYTIC 50V 0.22	3	
C2026		ECQM1H822KV	MYLAR 50V 8200P	1	
C2027		ECEA1CU101	ELECTROLYTIC 16V 100	1	
C2028		ECEA1AU101	ELECTROLYTIC 10V 100	1	
C2029		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C2030,2031		ECQV1H683JZ	MYLAR 50V 0.068	2	
C2032		ECQV1H274JZ	MYLAR 50V 0.27	1	
C2033		ECQM1H182KV	MYLAR 50V 1800P	1	
C2034		ECEA1HU010	ELECTROLYTIC 50V 1	1	
C2035		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C2036		ECEA0JU470	ELECTROLYTIC 6.3V 47	1	
C2037		ECQM1H273KV	MYLAR 50V 0.027	1	
C2038		ECEA0JU101	ELECTROLYTIC 6.3V 100	1	
C2039		ECKF1H221KB	CERAMIC 50V 220P	1	
C2042		ECQM1H103KV	MYLAR 50V 0.01	1	
C2043		ECEA1CU470	ELECTROLYTIC 16V 47	1	
C2044		ECQM1H272KV	MYLAR 50V 2700P	1	
C2045		ECQV1H563JZ	MYLAR 50V 0.056	1	
C2046		ECEA0JU470	ELECTROLYTIC 6.3V 47	1	
C2049		ECEA50ZR1	ELECTROLYTIC 50V 0.1	1	
C2050		ECEA50ZR33	ELECTROLYTIC 50V 0.33	1	
C2051		ECQM1H332KV	MYLAR 50V 3300P	1	
C2052-2054		ECEA1HN010S	ELECTROLYTIC 50V 1	3	
C2055		ECQM1H103KV	MYLAR 50V 0.01	1	
C2056		ECQV1H334JZ	MYLAR 50V 0.33	1	
C2057		ECQM1H103KV	MYLAR 50V 0.01	1	
C2058		ECEA1CU101	ELECTROLYTIC 16V 100	1	
C2059-2061		ECEA50ZR33	ELECTROLYTIC 50V 0.33	3	
C2062		ECEA1HU010	ELECTROLYTIC 50V 1	1	
C2063		ECQV1H104JZ	MYLAR 50V 0.1	1	
C2064		ECEA1HU2R2	ELECTROLYTIC 50V 2.2	1	
C2065,2066		ECKF1H103ZF	CERAMIC 50V 0.01	2	
C2067		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C2077		ECEA1CU470	ELECTROLYTIC 16V 47	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C2078,2079		ECEA50ZR68	ELECTROLYTIC 50V 0.68	2	
C2081,2082		ECCF1H680KC	CERAMIC 50V 68P	2	
C2087		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C2088		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C2090,2091		ECEA1CU100	ELECTROLYTIC 16V 10	2	
C2092		ECQV1H104JZ	MYLAR 50V 0.1	1	
C2093		ECEA1EU470	ELECTROLYTIC 25V 47	1	
C2094		ECEA1EU4R7	ELECTROLYTIC 25V 4.7	1	
C2095		ECEA0JK330	ELECTROLYTIC 6.3V 33	1	
C2096		ECEA0JK470	ELECTROLYTIC 6.3V 47	1	
C2110		ECEA0JU101	ELECTROLYTIC 6.3V 100	1	
C2111		ECQM1H223KV	MYLAR 50V 0.022	1	
C2401		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C2402		ECEA0JU330	ELECTROLYTIC 6.3V 33	1	
C2403		ECQP1104GZ	MYLAR 100V 0.1	1	
C2404		ECQB1H223KH	MYLAR 50V 0.022	1	
C2405		ECQB1H103KH	MYLAR 50V 0.01	1	
C2406		ECEA1CN100S	ELECTROLYTIC 16V 10	1	
C2412-2414		ECEA1CU470	ELECTROLYTIC 16V 47	3	
C2415		ECEA1CSS101	ELECTROLYTIC 16V 100	1	
C2416		ECEA1CU470	ELECTROLYTIC 16V 47	1	
C2417		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C2419		ECEA1HU010	ELECTROLYTIC 50V 1	1	
C2420		ECQB1H273JH	MYLAR 50V 0.027	1	
C2421		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C2423		ECEA1EN3R3S	ELECTROLYTIC 25V 3.3	1	
C2427		ECEA1CU470	ELECTROLYTIC 16V 47	1	
C2428		ECEA0JU221	ELECTROLYTIC 6.3V 220	1	
C2429		ECEA1CU220	ELECTROLYTIC 16V 22	1	
C2430,2431		ECKF1H103ZF	CERAMIC 50V 0.01	2	
C2432		ECEA0JU330	ELECTROLYTIC 6.3V 33	1	
C2601		VCE0004		1	
C2602		ECEA1HU4R7	ELECTROLYTIC 50V 4.7	1	
C2603		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C2604		ECEA50ZR15	ELECTROLYTIC 50V 0.15	1	
C2605,2606		ECKF1H103ZF	CERAMIC 50V 0.01	2	
			COILS		
L2002		VLQEL06F470K	47UH	1	
L2401		VLQ80F101K	100UH	1	
			CRYSTAL OSCILLATOR		
X2001		VSX0082		1	R
			CONNECTORS		
P001		VJP1238	11P	1	
P2001,2002		VJP1235	8P	2	
P2003		VJP1239	12P	1	
P2004,2005		VJP1235	8P	2	
P2006		VJP1233	6P	1	
P2008,2009		VJP1229	2P	2	
P2010		VJP1231	4P	1	
P2012		VJP1230	3P	1	
P2013		VJP1229	2P	1	
P2401		VJP1235	8P	1	
P2402,2403		VJP1232	5P	2	
P2404-2406		VJP1235	8P	3	
P2601		VJP1233	6P	1	
P2602		VJP1237	10P	1	
P2603		VJP1232	5P	1	
P2604		VJP1230	3P	1	
P2605		VJP1229	2P	1	
			MISCELLANEOUS		
		VMX0549	CIRCUIT BOARD SPACER	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VSC0495	HEAT SINK	1	
	■	VEP03164H	LUMINANCE & CHROMINANCE		
			C.B.A.		
			INTEGRATED CIRCUITS		
IC3001		AN6310		1	R
IC3002		AN6320N		1	R
IC3005		SN76670N		1	R
IC3006		AN6332		1	R
IC8301		AN6360		1	R
IC8302		AN6362		1	R
IC8303		AN6371		1	R
IC8304		AN6361N		1	R
			TRANSISTORS		
Q3001		2SB643		1	R(Q,R)
Q3002		2SC2206		1	R(B,C)
Q3003-3006		2SD636		4	R(Q,R)
Q3010-3012		2SD638		3	R(Q,R)
Q3016		2SD636		1	(Q,R)
Q3017-3019		2SC2206		3	(B,C)
Q3020		2SD636		1	(Q,R)
Q3021,3022		2SC2206		2	(B,C)
Q3023		2SB641		1	(Q,R)
Q3024		2SC2206		1	(B,C)
Q3025		2SB641		1	R(Q,R)
Q3026,3027		2SC2206		2	(B,C)
Q3030		2SB641		1	(Q,R)
Q3031		2SD636		1	(Q,R)
Q3041		2SD1266		1	R(P,Q)
Q3042-3044		2SD636		3	(Q,R)
Q3045		2SC2206		1	(B,C)
Q3047		2SC2377		1	R(B,C,D)
Q3048		2SD636		1	(Q,R)
Q3049		2SB643		1	(Q,R)
Q3050		2SD638		1	(Q,R)
Q8301		2SD636		1	(Q,R)
Q8304-8306		2SD636		3	(Q,R)
Q8308		2SC2206		1	(B,C)
Q8309		2SD636		1	(Q,R)
Q8310-8312		2SD636		3	(Q,R)
Q8313		2SD889		1	R(Q,R)
Q8316,8317		2SD636		2	(Q,R)
Q8319		2SD636		1	(Q,R)
Q8330		2SC828		1	R(Q,R)
Q8331		2SD636		1	(Q,R)
Q8336		2SD636		1	(Q,R)
			DIODES		
D3001		MA165		1	R
D3002,3003		ISS16		2	R
D3004,3005		MA165		2	
D3007-3009		MA165		3	
D3015		MA165		1	
D3017		RD6.2EB	ZENER	1	R
D3018		ISS16		1	
D8301		MA165		1	OR ISS133T
D8302,8303		MA165		2	
D8304,8305		MA165		2	OR ISS133T
D8306		MA165		1	
D8307		MA165		1	OR ISS133T
D8310		MA165		1	
D8317		MA165		1	OR ISS133T
D8319		MA165		1	OR ISS133T

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
D8321,8322	MA165		1	OR ISS133T
D8325	MA165		1	
D8328	IS1007		1	R
		RESISTORS		
R3001,3002	ERDS2TJ102	1K	2	
R3004	ERDS2TJ122	1.2K	1	
R3005	EVM38GA00B53	VARIABLE 5K	1	
R3006	ERDS2TJ103	10K	1	
R3007	ERD25TJ334	1/4W 330K	1	
R3008,3009	ERDS2TJ332	3.3K	2	
R3010	ERDS2TJ271	270	1	
R3011	ERDS2TJ222	2.2K	1	
R3012,3013	ERDS2TJ102	1K	2	
R3014	ERDS2TJ122	1.2K	1	
R3016	ERDS2TJ681	680	1	
R3017	ERDS2TJ102	1K	1	
R3018	EVM38GA00B53	VARIABLE 5K	1	
R3019	ERDS2TJ470	47	1	
R3020	ERDS2TJ821	820	1	
R3021	ERDS2TJ332	3.3K	1	
R3023	ERDS2TJ182	1.8K	1	
R3024	ERDS2TJ152	1.5K	1	
R3025	ERDS2TJ561	560	1	
R3026	ERDS2TJ102	1K	1	
R3027	ERDS2TJ562	5.6K	1	
R3028,3029	EVM38GA00B53	VARIABLE 5K	2	
R3030	ERDS2TJ562	5.6K	1	
R3031	ERDS2TJ332	3.3K	1	
R3032,3033	ERDS2TJ561	560	2	
R3034	ERDS2TJ223	22K	1	
R3035	ERDS2TJ103	10K	1	
R3036	ERDS2TJ222	2.2K	1	
R3037	ERDS2TJ393	39K	1	
R3038	ERDS2TJ103	10K	1	
R3039	EVM38GA00B23	VARIABLE 2K	1	
R3040	ERDS2TJ103	10K	1	
R3041	ERDS2TJ473	47K	1	
R3042	ERDS2TJ820	82	1	
R3043	ERDS2TJ821	820	1	
R3044	ERDS2TJ102	1K	1	
R3051	EVM38GA00B23	VARIABLE 2K	1	
R3055	ERDS2TJ152	1.5K	1	
R3056	ERDS2TJ331	330	1	
R3057	EROS2CKF10R0	METAL 10	1	
R3058	ERDS2TJ272	2.7K	1	
R3059	ERDS2TJ100	10	1	
R3060	ERDS2TJ272	2.7K	1	
R3061,3062	ERDS2TJ473	47K	2	
R3063	EVM38GA00B13	VARIABLE 1K	1	
R3064	ERDS2TJ391	390	1	
R3065	ERDS2TJ103	10K	1	
R3066	ERDS2TJ822	8.2K	1	
R3067	EVM38GA00B23	VARIABLE 2K	1	
R3068	ERDS2TJ102	1K	1	
R3069	EVM38GA00B23	VARIABLE 2K	1	
R3070	ERDS2TJ822	8.2K	1	
R3071	ERDS2TJ391	390	1	
R3072	EVM38GA00B13	VARIABLE 1K	1	
R3073	ERDS2TJ473	47K	1	
R3095,3096	ERDS2TJ153	15K	2	
R3097	ERDS2TJ102	1K	1	
R3098	ERDS2TJ472	4.7K	1	
R3099	ERDS2TJ272	2.7K	1	
R3100,3101	ERDS2TJ561	560	2	
R3102	ERDS2TJ681	680	1	
R3103	ERDS2TJ102	1K	1	
R3104	ERDS2TJ561	560	1	
R3105	ERDS2TJ820	82	1	
R3106	ERDS2TJ120	12	1	
R3107	ERDS2TJ332	3.3K	1	
R3108-3110	ERDS2TJ102	1K	3	
R3111	ERDS2TJ331	330	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R3112-3114	ERDS2TJ102	1K	3	
R3115	ERDS2TJ272	2.7K	1	
R3116	ERDS2TJ271	270	1	
R3117	ERDS2TJ391	390	1	
R3118,3119	ERDS2TJ102	1K	2	
R3120,3121	ERDS2TJ223	22K	2	
R3122	EVM38GA00B24	VARIABLE 20K	1	
R3123	ERDS2TJ153	15K	1	
R3124	ERDS2TJ102	1K	1	
R3125	ERDS2TJ222	2.2K	1	
R3126	ERDS2TJ102	1K	1	
R3127	ERDS2TJ332	3.3K	1	
R3128	ERDS2TJ333	33K	1	
R3129	ERDS2TJ562	5.6K	1	
R3130	ERDS2TJ102	1K	1	
R3131	ERDS2TJ121	120	1	
R3132	ERDS2TJ273	27K	1	
R3133	ERDS2TJ183	18K	1	
R3134,3135	ERDS2TJ271	270	2	
R3136	ERDS2TJ681	680	1	
R3137	ERDS2TJ222	2.2K	1	
R3138	ERDS2TJ221	220	1	
R3139	ERDS2TJ331	330	1	
R3140	ERDS2TJ103	10K	1	
R3141	ERDS2TJ102	1K	1	
R3142	ERDS2TJ821	820	1	
R3143	ERDS2TJ330	33	1	
R3144	ERDS2TJ121	120	1	
R3145	ERDS2TJ152	1.5K	1	
R3146	ERDS2TJ223	22K	1	
R3147	EVM38GA00B24	VARIABLE 20K	1	
R3148	ERDS2TJ823	82K	1	
R3149	ERDS2TJ152	1.5K	1	
R3150	ERDS2TJ331	330	1	
R3151	ERDS2TJ821	820	1	
R3152	ERDS2TJ472	4.7K	1	
R3153	ERDS2TJ181	180	1	
R3154	ERDS2TJ561	560	1	
R3155	ERDS2TJ151	150	1	
R3156,3157	ERDS2TJ181	180	2	
R3158	EVTK4CA00B23	VARIABLE 2K	1	
R3159,3160	ERDS2TJ153	15K	2	
R3161	ERDS2TJ222	2.2K	1	
R3162	ERDS2TJ102	1K	1	
R3163	EVM38GA00B13	VARIABLE 1K	1	
R3164	ERDS2TJ333	33K	1	
R6165	ERDS2TJ682	6.8K	1	
R3166	ERDS2TJ471	470	1	
R3167	ERDS2TJ271	270	1	
R3168	ERDS2TJ471	470	1	
R3172	ERDS2TJ122	1.2K	1	
R3173	ERDS2TJ222	2.2K	1	
R3174	ERDS2TJ152	1.5K	1	
R3175	ERDS2TJ392	3.9K	1	
R3176	ERDS2TJ562	5.6K	1	
R3177	ERDS2TJ222	2.2K	1	
R3179	ERDS2TJ561	560	1	
R3180	ERDS2TJ681	680	1	
R3181	ERDS2TJ102	1K	1	
R3182	ERDS2TJ562	5.6K	1	
R3183	ERDS2TJ151	150	1	
R3186	EVM38GA00B23	VARIABLE 2K	1	
R3187	ERDS2TJ474	470K	1	
R3188	ERDS2TJ101	100	1	
R3189	ERDS2TJ121	120	1	
R3190	ERDS2TJ103	10K	1	
R3191	ERDS2TJ562	5.6K	1	
R3192	ERDS2TJ121	120	1	
R3193	ERDS2TJ471	470	1	
R3213	ERDS2TJ154	150K	1	
R3215	ERDS2TJ562	5.6K	1	
R3235	ERDS2TJ561	560	1	
R3238-3240	ERDS2TJ102	1K	3	
R3241	ERDS2TJ152	1.5K	1	
R3242	ERDS2TJ182	1.8K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3243		ERDS2TJ122	1.2K	1	
R3244		ERDS2TJ182	1.8K	1	
R3245		ERDS2TJ103	10K	1	
R3246,3247		ERDS2TJ333	33K	2	
R3248		ERDS2TJ103	10K	1	
R3249		ERDS2TJ471	470	1	
R3251		ERDS2TJ102	1K	1	
R3254		ERDS2TJ121	120	1	
R3255		ERDS2TJ102	1K	1	
R3256		ERDS2TJ681	680	1	
R3259		ERDS2TJ103	10K	1	
R3264		ERDS2TJ471	470	1	
R3267		ERDS2TJ561	560	1	
R3268,3269		ERDS2TJ102	1K	2	
R3270		ERDS2TJ562	5.6K	1	
R3271		ERDS2TJ332	3.3K	1	
R3272		ERDS2TJ102	1K	1	
R3273		ERDS2TJ183	18K	1	
R3274		ERDS2TJ101	100	1	
R3275		ERDS2TJ152	1.5K	1	
R3276		ERDS2TJ681	680	1	
R3277		ERDS2TJ4R7	4.7	1	
R3278		ERDS2TJ182	1.8K	1	
R3279,3280		ERDS2TJ392	3.9K	2	
R3281		ERDS2TJ182	1.8K	1	
R3282		ERDS2TJ390	39	1	
R3283		ERDS2TJ100	10	1	
R3284		ERDS2TJ390	39	1	
R3508		ERDS2TJ332	3.3K	1	
R8301		ERDS2TJ821	820	1	
R8302		ERDS2TJ122	1.2K	1	
R8303		ERD25TJ684	1/4W 680K	1	
R8304		ERD25TJ105	1/4W 1M	1	
R8305		ERDS2TJ562	5.6K	1	
R8306		ERDS2TJ122	1.2K	1	
R8307		ERDS2TJ563	56K	1	
R8309		ERDS2TJ103	10K	1	
R8310		ERDS2TJ102	1K	1	
R8311		ERDS2TJ181	180	1	
R8318		ERD25TJ224	1/4W 220K	1	
R8319		ERDS2TJ102	1K	1	
R8320		ERDS2TJ122	1.2K	1	
R8321		ERDS2TJ102	1K	1	
R8322		ERDS2TJ122	1.2K	1	
R8323		ERDS2TJ102	1K	1	
R8325		ERDS2TJ102	1K	1	
R8326		ERDS2TJ152	1.5K	1	
R8327		ERDS2TJ222	2.2K	1	
R8328		ERDS2TJ273	27K	1	
R8329		ERDS2TJ562	5.6K	1	
R8330		ERDS2TJ102	1K	1	
R8331		ERDS2TJ472	4.7K	1	
R8332		ERDS2TJ682	6.8K	1	
R8333		ERDS2TJ681	680	1	
R8336		ERDS2TJ222	2.2K	1	
R8337		EVM38GA00B52	VARIABLE 500	1	
R8338		ERDS2TJ122	1.2K	1	
R8339		ERDS2TJ472	4.7K	1	
R8349		ERDS2TJ102	1K	1	
R8350		ERDS2TJ273	27K	1	
R8351		ERDS2TJ562	5.6K	1	
R8352		ERDS2TJ102	1K	1	
R8353		ERDS2TJ331	330	1	
R8354-8356		ERDS2TJ102	1K	3	
R8357		ERDS2TJ273	27K	1	
R8358		ERDS2TJ103	10K	1	
R8359		ERDS2TJ102	1K	1	
R8360		ERDS2TJ273	27K	1	
R8361		ERDS2TJ103	10K	1	
R8362		ERDS2TJ222	2.2K	1	
R8363		ERDS2TJ272	2.7K	1	
R8364		ERDS2TJ560	56	1	
R8365		ERDS2TJ102	1K	1	
R8366		ERDS2TJ103	10K	1	
R8367		ERDS2TJ333	33K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R8368		ERDS2TJ392	3.9K	1	
R8369		ERDS2TJ182	1.8K	1	
R8370		ERDS2TJ102	1K	1	
R8371		ERDS2TJ274	270K	1	
R8372		ERDS2TJ222	2.2K	1	
R8373		ERD25TJ184	1/4W 180K	1	
R8374		ERDS2TJ473	47K	1	
R8375		ERDS2TJ222	2.2K	1	
R8376		ERDS2TJ102	1K	1	
R8385		ERDS2TJ391	390	1	
R8386		EVM38GA00B14	10K	1	
R8387		ERDS2TJ562	5.6K	1	
R8388-8390		ERDS2TJ391	390	3	
R8391,8392		ERDS2TJ123	12K	2	
R8397		ERDS2TJ153	15K	1	
R8398		ERDS2TJ223	22K	1	
R8399		ERDS2TJ562	5.6K	1	
R8400		ERDS2TJ682	6.8K	1	
R8401		ERDS2TJ153	15K	1	
R8420		ERDS2TJ392	3.9K	1	
R8421		ERDS2TJ182	1.8K	1	
R8424		ERDS2TJ222	2.2K	1	
R8425		ERD25TJ334	330K	1	
R8434		ERDS2TJ391	390	1	
R8435		ERDS2TJ333	33K	1	
R8436		ERDS2TJ681	680	1	
R8437,8438		ERDS2TJ153	15K	2	
R8439		ERDS2TJ333	33K	1	
R8440		ERD50TJ121	1/2W 120	1	
R8441		ERDS2TJ222	2.2K	1	
8442,8443		ERDS2TJ562	5.6K	2	
R8451		ERDS2TJ563	56K	1	
R8452		ERDS2TJ561	560	1	
R8453		ERDS2TJ393	39K	1	
R8454		ERDS2TJ183	18K	1	
R8455		ERDS2TJ393	39K	1	
R8456		ERDS2TJ183	18K	1	
R8457		ERDS2TJ121	120	1	
R8458		ERDS2TJ102	1K	1	
R8459		ERDS2TJ101	100	1	
			CAPACITORS		
C3001		ECEA0JS470	ELECTROLYTIC 6.3V 47	1	
C3002		ECEA1CS220	ELECTROLYTIC 16V 22	1	
C3003		ECEA0JN470S	ELECTROLYTIC 6.3V 47	1	
C3004		ECEA1AS101	ELECTROLYTIC 10V 100	1	
C3005		ECEA1ES4R7	ELECTROLYTIC 25V 4.7	1	
C3006		ECEA0JS221	ELECTROLYTIC 6.3V 220	1	
C3007		VCY25333KX	SEMICONDUCTOR 25V 0.033	1	
C3008		VCKD1H471JA	SEMICONDUCTOR 50V 470P	1	
C3009		ECCF1H270KC	CERAMIC 50V 27P	1	
C3010		ECCF1H180KC	CERAMIC 50V 18P	1	
C3011		ECEA1AS470	ELECTROLYTIC 10V 47	1	
C3012		ECQV1H473JZ	MYLAR 50V 0.047	1	
C3013		ECEA1AS221	ELECTROLYTIC 10V 220	1	
C3015		ECKF1H1032F	CERAMIC 50V 0.01	1	
C3016		ECEA0JN470S	ELECTROLYTIC 6.3V 47	1	
C3017		ECEA0JS470	ELECTROLYTIC 6.3V 47	1	
C3018		ECEA1CS221	ELECTROLYTIC 16V 220	1	
C3019		ECEA0JN470S	ELECTROLYTIC 6.3V 47	1	
C3020		ECKF1H121KB	CERAMIC 50V 120P	1	
C3021		ECEA1ES4R7	ELECTROLYTIC 25V 4.7	1	
C3022		ECCF1H560KC	CERAMIC 50V 56P	1	
C3023		ECV1ZW50X64	TRIMMER	1	
C3024		ECEA1CK470	ELECTROLYTIC 16V 47	1	
C3025-3028		ECKF1H1032F	CERAMIC 50V 0.01	4	
C3029		ECEA0JS470	ELECTROLYTIC 6.3V 47	1	
C3030		ECCF1H820KC	CERAMIC 50V 82P	1	
C3031		ECCF1H181KC	CERAMIC 50V 180P	1	
C3032		ECKF1H1032F	CERAMIC 50V 0.01	1	
C3037		ECCF1H390KC	CERAMIC 50V 39P	1	
C3040		VCY25104KX	SEMICONDUCTOR 25V 0.1	1	
C3041		ECKF1H103ZF	CERAMIC 50V 0.01	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3042		ECEA1CS470	ELECTROLYTIC 16V 47	1	
C3043		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C3044		ECEA1CK470	ELECTROLYTIC 16V 47	1	
C3045		ECEA1HS010	ELECTROLYTIC 50V 1	1	
C3046		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C3047,3048		ECV1ZW50X64	TRIMMER	2	
C3049		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C3050		ECEA1HS010	ELECTROLYTIC 50V 1	1	
C3051		ECEA1CS100	ELECTROLYTIC 16V 10	1	
C3052,3053		ECKF1H103ZF	CERAMIC 50V 0.01	2	
C3054		ECCF1H470KC	CERAMIC 50V 47P	1	
C3055		ECCF1H150KC	CERAMIC 50V 15P	1	
C3056		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C3057		VCY25153KX	SEMICONDUCTOR 25V 0.015	1	
C3058		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C3059		ECCF1H470KC	CERAMIC 50V 47P	1	
C3060		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C3078		VCY25473KX	SEMICONDUCTOR 25V 0.047	1	
C3079		ECEA1CS221	ELECTROLYTIC 16V 220	1	
C3080-3082		ECKF1H103ZF	CERAMIC 50V 0.01	3	
C3083		ECCF1H151KC	CERAMIC 50V 150P	1	
C3084		ECKF1H391KB	CERAMIC 50V 390P	1	
C3085		VCKD1H431JSA	SEMICONDUCTOR 50V 430P	1	
C3086		ECKF1H391KB	CERAMIC 50V 390P	1	
C3087-3089		ECKF1H103ZF	CERAMIC 50V 0.01	3	
C3090		ECCF1H390KC	CERAMIC 50V 39P	1	
C3091-3093		ECKF1H103ZF	CERAMIC 50V 0.01	3	
C3094		ECCF1H330KC	CERAMIC 50V 33P	1	
C3095,3096		ECCF1H220KC	CERAMIC 50V 22P	2	
C3097-3100		ECKF1H103ZF	CERAMIC 50V 0.01	4	
C3101		VCY25473KX	SEMICONDUCTOR 25V 0.047	1	
C3102		ECEA1CK470	ELECTROLYTIC 16V 47	1	
C3103		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C3104		ECCF1H560KC	CERAMIC 50V 56P	1	
C3105		VCKD1H391JSA	SEMICONDUCTOR 50V 390P	1	
C3106		ECQM1H182JV	MYLAR 50V 1800P	1	
C3107		ECKF1H681KB	CERAMIC 50V 680P	1	
C3108		ECKF1H122KB	CERAMIC 50V 1200P	1	
C3109,3110		ECEA1CN100S	ELECTROLYTIC 16V 10	2	
C3112		ECKF1H221KB	CERAMIC 50V 220P	1	
C3113		ECEA0JS470	ELECTROLYTIC 6.3V 47	1	
C3114		ECEA1CU221	ELECTROLYTIC 16V 220	1	
C3115		VCY25473KX	SEMICONDUCTOR 25V 0.047	1	
C3116		ECCF1H220KC	CERAMIC 50V 22P	1	
C3117		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C3118		ECCF1H680KC	CERAMIC 50V 68P	1	
C3119		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C3120		ECEA1CS471	ELECTROLYTIC 16V 470	1	
C3121		ECEA0JS470	ELECTROLYTIC 6.3V 47	1	
C3124		ECEA0JS470	ELECTROLYTIC 6.3V 47	1	
C3125		ECEA1CS100	ELECTROLYTIC 16V 10	1	
C3126		VCK01H271JSA	SEMICONDUCTOR 50V 270P	1	
C3127		ECCF1H270KC	CERAMIC 50V 27P	1	
C3128		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C3129		ECEA1HS010	ELECTROLYTIC 50V 1	1	
C3130		ECEA1CS221	ELECTROLYTIC 16V 220	1	
C3131		ECEA1AS470	ELECTROLYTIC 10V 47	1	
C3132		VCY25183KX	SEMICONDUCTOR	1	
C3133		ECCF1H101KC	CERAMIC 50V 100P	1	
C3134,3135		ECEA0JS470	ELECTROLYTIC 6.3V 47	2	
C3136		ECEA0JS471	ELECTROLYTIC 6.3V 470	1	
C3137		ECEA1AS471	ELECTROLYTIC 10V 470	1	
C3143		ECEA1CS221	ELECTROLYTIC 16V 220	1	
C3144		ECQV1H473JZ	MYLAR 50V 0.047	1	
C3158		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C3159		ECEA1CK470	ELECTROLYTIC 16V 47	1	
C3162		ECEA1ESS331	ELECTROLYTIC 25V 330	1	
C3163		ECEA1CK470	ELECTROLYTIC 16V 47	1	
C3164		ECKF1H221KB	CERAMIC 50V 220P	1	
C3170		ECEA1AS470	ELECTROLYTIC 10V 47	1	
C3172		ECQV1H104JZ	MYLAR 50V 0.1	1	
C3173		ECKF1H121KB	CERAMIC 50V 120P	1	
C3176		ECKF1H221KB	CERAMIC 50V 220P	1	
C3177,3178		ECKF1H103ZF	CERAMIC 50V 0.01	2	
C3179		ECCF1H150KC	CERAMIC 50V 15P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3180		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C3181		ECCF1H150KC	CERAMIC 50V 15P	1	
C3182		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C3183		ECEA1CK470	ELECTROLYTIC 16V 47	1	
C3184-3186		ECKF1H103ZF	CERAMIC 50V 0.01	3	
C3187		ECEA1CK470	ELECTROLYTIC 16V 47	1	
C8302		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C8303		ECEA1HS010	ELECTROLYTIC 50V 1	1	
C8304		ECEA1CS100	ELECTROLYTIC 16V 10	1	
C8305-8308		ECKF1H103ZF	CERAMIC 50V 0.01	4	
C8309		ECKF1H121KB	CERAMIC 50V 120P	1	
C8310		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C8313,8314		ECKF1H103ZF	CERAMIC 50V 0.01	2	
C8315		ECEA1CK470	ELECTROLYTIC 16V 47	1	
C8316,8317		ECKF1H103ZF	CERAMIC 50V 0.01	2	
C8318		ECKF1H102KB	CERAMIC 50V 1000P	1	
C8319		ECEA1AS470	ELECTROLYTIC 10V 47	1	
C8320		ECEA1CS470	ELECTROLYTIC 16V 47	1	
C8321		ECEA1HS010	ELECTROLYTIC 50V 1	1	
C8322		ECQV1H104JZ	MYLAR 50V 0.1	1	
C8323		ECKF1H102KB	CERAMIC 50V 1000P	1	
C8324		ECQV1H104JZ	MYLAR 50V 0.1	1	
C8325		VCKD1H821JSA	SEMICONDUCTOR 50V 820P	1	
C8326		ECKF1H821KB	CERAMIC 50V 820P	1	
C8327		ECKF1H561KB	CERAMIC 50V 560P	1	
C8328		ECEA1CS100	ELECTROLYTIC 16V 10	1	
C8329		VCY25183KX	SEMICONDUCTOR	1	
C8330		ECCF1H181KC	CERAMIC 50V 180P	1	
C8331		ECCF1H121KC	CERAMIC 50V 120P	1	
C8332		ECKF1H821KB	CERAMIC 50V 820P	1	
C8333		ECKF1H221KB	CERAMIC 50V 220P	1	
C8335		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C8336		ECEA1CS100	ELECTROLYTIC 16V 10	1	
C8337		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C8338		ECCF1H820KC	CERAMIC 50V 82P	1	
C8339		ECEA1CS100	ELECTROLYTIC 16V 10	1	
C8340		ECKF1H121KB	CERAMIC 50V 120P	1	
C8341		ECCF1H101KC	CERAMIC 50V 100P	1	
C8342		ECCF1H100FC	CERAMIC 50V 10P	1	
C8343		ECV1ZW30X64	TRIMMER	1	
C8344		ECQM1H333KV	MYLAR 50V 0.033	1	
C8345		ECEA1CS100	ELECTROLYTIC 16V 10	1	
C8346		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C8347		ECCF1H030DC	CERAMIC 50V 3P	1	
C8348		ECV1ZW50X64	TRIMMER	1	
C8349		ECCF1H080DC	CERAMIC 50V 8P	1	
C8350		ECEA1CS470	ELECTROLYTIC 16V 47	1	
C8351,8352		ECKF1H103ZF	CERAMIC 50V 0.01	2	
C8353		ECCF1H101KC	CERAMIC 50V 100P	1	
C8354		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C8355		ECCF1H270KC	CERAMIC 50V 27P	1	
C8356		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C8357		ECEA1HS2R2	ELECTROLYTIC 50V 2.2	1	
C8358		ECKF1H471KB	CERAMIC 50V 470P	1	
C8359		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C8367		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C8369		ECEA1CS100	ELECTROLYTIC 16V 10	1	
C8370		ECQV1H104JZ	MYLAR 50V 0.1	1	
C8383		ECQM1H103KV	MYLAR 50V 0.01	1	
C8384		ECEA1CS100	ELECTROLYTIC 16V 10	1	
C8385		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C8386		ECCF1H040DC	CERAMIC 50V 4P	1	
C8387		ECV1ZW30X64	TRIMMER	1	
C8388		ECCF1H060DC	CERAMIC 50V 6P	1	
C8389		ECEA1CS100	ELECTROLYTIC 16V 10	1	
C8390		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C8393		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C8394		ECCF1H150KC	CERAMIC 50V 15P	1	
C8395,8396		ECKF1H103ZF	CERAMIC 50V 0.01	2	
C8397		ECEA1HS2R2	ELECTROLYTIC 50V 2.2	1	
C8398		ECCF1H101KC	CERAMIC 50V 100P	1	
C8399		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C8400		ECEA1CS100	ELECTROLYTIC 16V 10	1	
C8401		ECKF1H391KB	CERAMIC 50V 390P	1	
C8402,8403		ECKF1H103ZF	CERAMIC 50V 0.01	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C8407		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C8408		ECEA1CS330	ELECTROLYTIC 16V 33P	1	
C8409		ECQV1H104JZ	MYLAR 50V 0.1	1	
C8412		ECQV1H104JZ	MYLAR 50V 0.1	1	
C8413		ECKF1H103ZF	CERAMIC 50V 0.01	1	
			COILS		
L3001		VLQEL06F330K	33UH	1	
L3002		VLQEL06F680K	68UH	1	
L3004, 3005		VLQEL06F221K	220UH	2	
L3006		VLQEL06F820K	82UH	1	
L3007		VLQEL06F151K	150UH	1	
L3009		VLQEL06F330K	33UH	1	
L3010		VLQEL06F221K	220UH	1	
L3011		VLQEL06F2R2K	2.2UH	1	
L3012		VLQEL06F220K	22UH	1	
L3013		VLQEL06F471K	470UH	1	
L3014		VLQEL06F220K	22UH	1	
L3015		VLQEL06F2R2K	2.2UH	1	
L3022, 3023		VLQEL06F221K	220UH	2	
L3024		VLQEL06F180K	18UH	1	
L3025		VLQEL06F2R2K	2.2UH	1	
L3026		VLQEL06F1R0K	1UH	1	
L3027		VLQEL06F151K	150UH	1	
L3028		VLQEL06F471K	470UH	1	
L3029, 3030		VLQEL06F100K	10UH	2	
L3031		VLQEL06F180K	18UH	1	
L3032		VLQEL06F3R3K	3.3UH	1	
L3033		VLQEL06F220K	22UH	1	
L3035, 3036		VLQEL06F221K	220UH	2	
L3039		VLQEL06F471K	470UH	1	
L3040		VLQEL06F100K	10UH	1	
L3043		VLQEL06F221K	220UH	1	
L3045, 3046		VLQEL06F221K	220UH	2	
L3047		VLQEL06F121K	120UH	1	
L3048		VLQEL06F150K	15UH	1	
L3049, 3050		VLQEL06F221K	220UH	2	
L3501		VLQEL06F221K	220UH	1	
L8301		VLQEL06F121K	120UH	1	
L8303		VLQEL06F221K	220UH	1	
L8305		VLQEL06F221K	220UH	1	
L8306		VLQ02F682K	6.8mH	1	
L8307		VLQEL06F101K	100UH	1	
L8310		VLQEL06F221K	220UH	1	
L8311		VLQEL06F221K	220UH	1	
L8312		VLQEL06F330K	33UH	1	
L8313		VLQEL06F221K	220UH	1	
L8314		VLQEL06F560K	56UH	1	
L8315		VLQEL06F470K	47UH	1	
L8317		VLQEL06F221K	220UH	1	
L8318, 8319		VLQEL06F6R8K	6.8UH	2	
L8322		VLQEL06F560K	56UH	1	
L8323		VLQEL06F221K	220UH	1	
L8324		VLQEL06F470K	47UH	1	
L8326		VLQEL06F221K	220UH	1	
			DELAY LINE		
DL3001		EFDYN645A15A		1	
DL8302		VLD0014		1	
			FILTERS		
FL3001		VLF0056		1	
FL3002		VLF0287		1	
FL3003		VLF0063		1	
FL3004		VLF0208		1	
FL8301		VLF0113		1	
FL8302		VLF0085		1	
FL8303		VLF0094		1	
FL8304		VLF0303		1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
FL8305		VLF0095		1	
			CRYSTAL OSCILLATOR		
X8301		VSX0066		1	R
X8302		VSX0069		1	R
X8305		VSX0068		1	R
			CONNECTORS		
P3001		VJP1231	4P	1	
P3003		VJP1232	5P	1	
P3004		VJP1235	8P	1	
P3005, 3006		VJP1230	3P	2	
P3007		VJP1231	4P	1	
P3008		VJP1144	6P	1	
P8302		VJP1235	8P	1	
P8303		VJP1232	5P	1	
			MISCELLANEOUS		
		VMX0549	CIRCUIT BOARD SPACER	1	
		VSC0969	SHIELD CASE	1	
		VSC0970	SHIELD CASE	1	
	■	VJB00G43	AGC ON/OFF C.B		
			TRANSISTORS		
Q3501		2SC2206		1	R
Q3502, 3503		2SB641		2	R
			RESISTORS		
R3501		ERDS2TJ223	22K	1	
R3502		ERDS2TJ562	5.6K	1	
R3503		ERDS2TJ102	1K	1	
R3504		ERDS2TJ561	560	1	
R3505		ERDS2TJ391	390	1	
R3506		EVM38GA00B13	VARIABLE 1K	1	
R3507		ERDS2TJ102	1K	1	
			CAPACITORS		
C3501		ECEA0JS470	ELECTROLYTIC 6.3V 47	1	
C3502		ECEA1CK101	ELECTROLYTIC 16V 100	1	
C3504		ECCF1H560JC	CERAMIC 50V 56P	1	
C3503		ECEA1CK470	16V 47	1	
			CONNECTOR		
P3500		VJP1248	8P	1	
			SWITCH		
SW3501		VSS0101		1	R
	■	VEP04115B1	HD AUDIO C.B.A.		
			INTEGRATED CIRCUITS		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC4302		AN6552		1	OR UPC4558C R
IC4306		AN6391S		1	R
IC4309		AN6291S		1	R
IC4310		AN6558		1	OR UPC4558C
IC4311		AN6914		1	OR UPC393C R
IC4314		AN6391S		1	
IC4316		AN6320N		1	R
IC4317		VCR0112		1	OR UPC393C R
IC4318		VCR0112		1	OR UPC393C
			TRANSISTORS		
Q4301-4313		2SC2021M		13	(Q,R,S) OR
					2SD636 (Q,R,S,T) R
Q4317		2SC2021M		1	(Q,R,S) OR
					2SD636 (Q,R,S,T)
Q4319,4320		2SC2021M		2	(Q,R,S) OR
					2SD636 (Q,R,S,T)
Q4324,4325		2SA937M		2	(Q,R,S) OR
					2SD641 (Q,R,S,T) R
Q4326-4328		2SC2021M		3	(Q,R,S) OR
					2SD636 (Q,R,S,T)
Q4329,4330		2SC2377		2	(B,C,D) R
Q4331		2SC2021M		1	(Q,R,S) OR
					2SD636 (Q,R,S,T)
Q4332		2SA937M		1	(Q,R,S) OR R
					2SB641 (Q,R,S,T)
Q4334		2SC2021M		1	(Q,R,S) OR
					2SD636 (Q,R,S,T)
Q4335		2SD638		1	(Q,R,S) R
Q4337		2SC2021M		1	(Q,R,S) OR
					2SD636 (Q,R,S,T)
Q4338,4339		2SD638		2	(Q,R,S)
Q4340		2SC2377		1	(B,C,D)
Q4341		2SC2021M		1	(Q,R,S) OR
					2SD636 (Q,R,S,T)
Q4342,4343		2SC2377		2	(B,C,D)
Q4344		2SC2021M		1	(Q,R,S) OR
					2SD636 (Q,R,S,T)
Q4345		2SC2377		1	(B,C,D)
Q4346-4348		2SC2021M		3	(Q,R,S) OR
					2SD636 (Q,R,S,T)
Q4349,4350		2SB643		2	(Q,R,S,T) R
Q4351-4354		2SC2021M		4	(S) OR 2SD636 (S,T)
Q4355,4356		2SC2021M		2	(Q,R,S) OR
					2SD636 (Q,R,S,T)
Q4357,4358		2SA937M		2	(Q,R,S) OR R
					2SD641 (Q,R,S,T)
Q4359,4360		2SA937M		2	(S) OR 2SB641 (S,T)R
Q4361		2SD655		1	R
Q4363,4364		2SC2021M		2	(Q,R,S)
Q4662		2SD655		1	
			DIODES		
D4308		RD6.2EB1	ZENER	1	R
D4309-4321		MA165		13	R
			RESISTORS		
R4301		ERDS2TJ563	56K	1	
R4302		ERDS2TJ473	47K	1	
R4303		ERDS2TJ563	56K	1	
R4304		ERDS2TJ473	47K	1	
R4305		ERDS2TJ563	56K	1	
R4309		ERDS2TJ122	1.2K	1	
R4310		ERDS2TJ330	33	1	
R4311		ERDS2TJ122	1.2K	1	
R4312		ERDS2TJ330	33	1	
R4313		ERDS2TJ561	560	1	
R4315		ERDS2TJ473	47K	1	
R4316		ERDS2TJ562	5.6K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4317,4318		ERDS2TJ473	47K	2	
R4320,4321		ERDS2TJ273	27K	2	
R4322		ERDS2TJ562	5.6K	1	
R4324,4325		ERDS2TJ223	22K	2	
R4331		ERDS2TJ222	2.2K	1	
R4332,4333		ERDS2TJ223	22K	2	
R4334		ERDS2TJ471	470	1	
R4339		ERDS2TJ822	8.2K	1	
R4343		ERDS2TJ473	47K	1	
R4348		ERDS2TJ682	6.8K	1	
R4349		ERDS2TJ183	18K	1	
R4350		ERDS2TJ104	100K	1	
R4357		ERDS2TJ563	56K	1	
R4365		ERDS2TJ392	3.9K	1	
R4366		EVN3ACA00B23	VARIABLE 2K	1	
R4367		ERDS2TJ822	8.2K	1	
R4368		ERDS2TJ153	15K	1	
R4369		EVN3ACA00B13	VARIABLE 1K	1	
R4370		ERDS2TJ102	1K	1	
R4371		EVN3ACA00B52	VARIABLE 500	1	
R4372		ERDS2TJ562	5.6K	1	
R4374		ERDS2TJ562	5.6K	1	
R4376		ERDS2TJ221	220	1	
R4377		ERDS2TJ471	470	1	
R4378		ERDS2TJ562	5.6K	1	
R4379		ERDS2TJ102	1K	1	
R4380		ERDS2TJ474	470K	1	
R4381		ERDS2TJ332	3.3K	1	
R4382		ERDS2TJ392	3.9K	1	
R4383		ERDS2TJ183	18K	1	
R4384		ERDS2TJ151	150	1	
R4385		ERDS2TJ102	1K	1	
R4386		ERDS2TJ272	2.7K	1	
R4387		ERDS2TJ100	10	1	
R4388		ERDS2TJ272	2.7K	1	
R4389		ERDS2TJ102	1K	1	
R4390		ERDS2TJ100	10	1	
R4391		ERDS2TJ152	1.5K	1	
R4392		ERDS2TJ222	2.2K	1	
R4393		ERDS2TJ102	1K	1	
R4396		ERDS2TJ102	1K	1	
R4397		ERDS2TJ222	2.2K	1	
R4398		ERDS2TJ561	560	1	
R4400		ERDS2TJ471	470	1	
R4401		ERDS2TJ222	2.2K	1	
R4402		ERDS2TJ822	8.2K	1	
R4403		ERDS2TJ561	560	1	
R4404		EVN3ACA00B23	VARIABLE 2K	1	
R4405		ERDS2TJ473	47K	1	
R4406		ERDS2TJ100	10	1	
R4407		ERDS2TJ223	22K	1	
R4408,4409		ERDS2TJ102	1K	2	
R4410		ERDS2TJ100	10	1	
R4411		ERDS2TJ473	47K	1	
R4412		ERDS2TJ124	120K	1	
R4413		ERDS2TJ122	1.2K	1	
R4414		ERDS2TJ223	22K	1	
R4415		ERDS2TJ392	3.9K	1	
R4416		ERDS2TJ104	100K	1	
R4417		ERDS2TJ221	220	1	
R4418		ERDS2TJ102	1K	1	
R4419		ERDS2TJ271	270	1	
R4420		ERDS2TJ102	1K	1	
R4421		ERDS2TJ392	3.9K	1	
R4422		ERDS2TJ273	27K	1	
R4423		ERDS2TJ823	82K	1	
R4424,4425		ERDS2TJ182	1.8K	2	
R4427		ERDS2TJ122	1.2	1	
R4428		ERDS2TJ392	3.9K	1	
R4429		ERDS2TJ223	22K	1	
R4430		ERDS2TJ104	100K	1	
R4432		ERDS2TJ102	1K	1	
R4433		ERDS2TJ821	820	1	
R4434		ERDS2TJ102	1K	1	
R4435		ERDS2TJ392	3.9K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R4436	ERDS2TJ823	82K	1	
R4437	ERDS2TJ273	27K	1	
R4438	ERDS2TJ473	47K	1	
R4439	ERDS2TJ102	1K	1	
R4441	ERDS2TJ104	100K	1	
R4442	EVN3ACA00B54	VARIABLE 50K	1	
R4443	ERDS2TJ102	1K	1	
R4444	ERDS2TJ223	22K	1	
R4445	ERDS2TJ473	47K	1	
R4446	ERDS2TJ223	22K	1	
R4447,4448	ERDS2TJ473	47K	2	
R4449	ERDS2TJ123	12K	1	
R4450	ERDS2TJ153	15K	1	
R4451	ERDS2TJ472	4.7K	1	
R4452-4455	ERDS2TJ223	22K	4	
R4456	ERDS2TJ473	47K	1	
R4457	ERDS2TJ222	2.2K	1	
R4458	ERDS2TJ473	47K	1	
R4459	EVN3ACA00B15	VARIABLE 100K	1	
R4461	ERDS2TJ332	3.3K	1	
R4462	ERDS2TJ103	10K	1	
R4463	ERDS2TJ122	1.2K	1	
R4464	ERDS2TJ223	22K	1	
R4465	ERDS2TJ472	4.7K	1	
R4467,4468	EROS2CKG1502	METAL 15K	2	
R4470	ERDS2TJ472	4.7K	1	
R4471	EVN3ACA00B23	VARIABLE 2K	1	
R4472-4476	ERDS2TJ223	22K	5	
R4477,4478	ERDS2TJ473	47K	2	
R4479	ERDS2TJ222	2.2K	1	
R4480	ERDS2TJ472	4.7K	1	
R4481	ERDS2TJ153	15K	1	
R4482	EVN3ACA00B15	VARIABLE 100K	1	
R4484	ERDS2TJ332	3.3K	1	
R4485	ERDS2TJ103	10K	1	
R4486	ERDS2TJ122	1.2K	1	
R4487	ERDS2TJ151	150	1	
R4488	ERDS2TJ472	4.7K	1	
R4489	EROS2CKG1502	METAL 15K	1	
R4490	ERDS2TG102	1K	1	
R4491	ERDS2TJ472	4.7K	1	
R4492	EROS2CKG1502	METAL 15K	1	
R4493	ERDS2TJ151	150	1	
R4495	ERDS2TJ562	5.6K	1	
R4496	ERDS2TJ151	150	1	
R4497,4498	ERDS2TJ333	33K	2	
R4500	ERDS2TJ562	5.6K	1	
R4501	ERDS2TJ563	56K	1	
R4502,4503	ERDS2TJ473	47K	2	
R4504	ERDS2TJ563	56K	1	
R4505	ERDS2TJ122	1.2K	1	
R4506	ERDS2TJ562	5.6K	1	
R4507	ERDS2TJ103	10K	1	
R4508	ERDS2TJ393	39K	1	
R4509	ERDS2TJ104	100K	1	
R4512	ERDS2TJ472	4.7K	1	
R4513	ERDS2TJ562	5.6K	1	
R4514	ERDS2TJ393	39K	1	
R4515	ERDS2TJ223	22K	1	
R4519	ERDS2TJ563	56K	1	
R4521	ERDS2TJ272	2.7K	1	
R4522	EVN3ACA00B23	VARIABLE 2K	1	
R4527	ERDS2TJ105	1M	1	
R4528	EVN3ACA00B13	VARIABLE 1K	1	
R4529	ERDS2TJ103	10K	1	
R4530	ERDS2TJ183	18K	1	
R4531	ERDS2TJ822	8.2K	1	
R4532	ERDS2TJ153	15K	1	
R4533	ERDS2TJ102	1K	1	
R4534	EVN3ACA00B13	VARIABLE 1K	1	
R4536,4537	ERDS2TJ182	1.8K	2	
R4538,4539	ERDS2TJ222	2.2K	2	
R4541	ERDS2TJ473	47K	1	
R4542	ERDS2TJ102	1K	1	
R4544	ERDS2TJ102	1K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R4545	EVN3ACA00B54	VARIABLE 50K	1	
R4546	ERDS2TJ104	100K	1	
R4548	ERDS2TJ272	2.7K	1	
R4549	ERDS2TJ221	220	1	
R4550,4551	ERDS2TJ473	47K	2	
R4552	ERDS2TJ222	2.2K	1	
R4553,4554	ERDS2TJ473	47K	2	
R4555	ERDS2TJ222	2.2K	1	
R4557	ERDS2TJ272	2.7K	1	
R4558,4559	ERDS2TJ473	47K	2	
R4563	ERDS2TJ104	100K	1	
R4565	ERDS2TJ104	100K	1	
R4576,4577	ERDS2TJ822	8.2K	2	
R4580	ERDS2TJ472	4.7K	1	
R4581	ERDS2TJ682	6.8K	1	
R4582	ERDS2TJ272	2.7K	1	
R4583,4584	ERDS2TJ682	6.8K	2	
R4585	ERDS2TJ222	2.2K	1	
R4586	ERDS2TJ472	4.7K	1	
R4587	ERDS2TJ682	6.8K	1	
R4588	ERDS2TJ272	2.7K	1	
R4589,4590	ERDS2TJ682	6.8K	2	
R4591	ERDS2TJ222	2.2K	1	
R4592,4593	ERDS2TJ182	1.8K	2	
R4594,4595	ERDS2TJ223	22K	2	
R4596,4597	ERDS2TJ272	2.7K	2	
R4598,4599	ERDS2TJ473	47K	2	
R4600	ERDS2TJ822	8.2K	1	
R4602	ERDS2TJ822	8.2K	1	
R4608,4609	ERDS2TJ391	390	2	
R4610	ERDS2TJ392	3.9K	1	
R4611	ERDS2TJ682	6.8K	1	
R4612	ERDS2TJ472	4.7K	1	
R4613	ERDS2TJ392	3.9K	1	
R4614	ERDS2TJ682	6.8K	1	
R4615	ERDS2TJ472	4.7K	1	
R4616	ERDS2TJ102	1K	1	
R4617	ERDS2TJ103	10K	1	
R4618	ERDS2TJ102	1K	1	
R4619-4621	ERDS2TJ103	10K	3	
		CAPACITORS		
C4303	ECEA1CK470	ELECTROLYTIC 16V 47	1	
C4308	ECKF1H103ZF	CERAMIC 50V 0.01	1	
C4312	ECEA1CK470	ELECTROLYTIC 16V 47	1	
C4314,4315	ECEA1CK100	ELECTROLYTIC 16V 10	2	
C4316,4317	ECEA1EK3R3	ELECTROLYTIC 25V 3.3	2	
C4318	ECEA1CK100	ELECTROLYTIC 16V 10	1	
C4320	ECCF1H330KC	CERAMIC 50V 33P	1	
C4321,4322	ECEA1AK470	ELECTROLYTIC 10V 47	2	
C4323	ECCF1H330KC	CERAMIC 50V 33	1	
C4325	ECEA1HN010S	ELECTROLYTIC 50V 1	1	
C4329	ECEA1EK3R3	ELECTROLYTIC 25V 3.3	1	
C4331	ECEA1EK3R3	ELECTROLYTIC 25V 3.3	1	
C4332	ECQB1H103KH	MYLAR 50V 0.01	1	
C4333	ECCF1H101KC	CERAMIC 50V 100P	1	
C4334	ECKF1H103ZF	CERAMIC 50V 0.01	1	
C4335	ECCF1H820KC	CERAMIC 50V 82P	1	
C4337,4338	ECCF1H680KC	CERAMIC 50V 68P	2	
C4339	ECEA1EK3R3	ELECTROLYTIC 25V 3.3	1	
C4340	ECEA1CK100	ELECTROLYTIC 16V 10	1	
C4341	ECEA0JK101	ELECTROLYTIC 6.3V 100	1	
C4342	ECQB1H562KH	MYLAR 50V 5600P	1	
C4343	ECEA0JK220	ELECTROLYTIC 6.3V 22	1	
C4344	ECKF1H103ZF	CERAMIC 50V 0.01	1	
C4345	ECCF1H680JC	CERAMIC 50V 68P	1	
C4346	ECEA0JK101	ELECTROLYTIC 6.3V 100	1	
C4347	ECKF1H331KB	CERAMIC 50V 330P	1	
C4348	ECEA0JK101	ELECTROLYTIC 6.3V 100	1	
C4349	ECEA1EK3R3	ELECTROLYTIC 25V 3.3	1	
C4350	ECQB1H103JH	MYLAR 50V 0.01	1	
C4351	ECEA1EK3R3	ELECTROLYTIC 25V 3.3	1	
C4352	ECQB1H223JH	MYLAR 50V 0.022	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C4353		ECEA16M10R	ELECTROLYTIC 16V 1	1	
C4356		ECEA1CK100	ELECTROLYTIC 16V 10	1	
C4357		ECQB1H123JH	MYLAR 50V 0.012	1	
C4358		ECCF1H221K	CERAMIC 50V 220P	1	
C4359,4360		ECEA50Z3R3	ELECTROLYTIC 50V 3.3	2	
C4361		ECCF1H221K	CERAMIC 50V 220P	1	
C4362		ECQB1H123JH	MYLAR 50V 0.012	1	
C4363		ECEA1CK100	ELECTROLYTIC 16V 10	1	
C4364		ECEA1EK3R3	ELECTROLYTIC 25V 3.3	1	
C4365		ECQB1H103JH	MYLAR 50V 0.01	1	
C4366		ECEA1EK3R3	ELECTROLYTIC 25V 3.3	1	
C4367		ECEA16M10	ELECTROLYTIC 16V 1	1	
C4368		ECEA0JK101	ELECTROLYTIC 6.3V 100	1	
C4369		ECQB1H123JH	MYLAR 50V 0.012	1	
C4370		ECQB1H472JH	MYLAR 50V 4700P	1	
C4371		ECEA1CK100	ELECTROLYTIC 16V 10	1	
C4372		ECEA16M10	ELECTROLYTIC 16V 1	1	
C4373		ECEA0JK101	ELECTROLYTIC 6.3V 100	1	
C4374		ECQB1H472JH	MYLAR 50V 4700P	1	
C4375		ECQB1H123JH	MYLAR 50V 0.012	1	
C4376,4377		ECEA1CK100	ELECTROLYTIC 16V 10	2	
C4378		ECQB1H223JH	MYLAR 50V 0.022	1	
C4381		ECEA16M10	ELECTROLYTIC 16V 1	1	
C4382		ECEA1CK100	ELECTROLYTIC 16V 10	1	
C4383		ECEA1AK101	ELECTROLYTIC 16V 100	1	
C4384		ECEA1AK330	ELECTROLYTIC 16V 33	1	
C4385		ECCF1H330KC	CERAMIC 50V 33P	1	
C4386		ECEA1AK470	ELECTROLYTIC 10V 47	1	
C4387		ECEA0JK330	ELECTROLYTIC 6.3V 33	1	
C4388		ECCF1H330KC	CERAMIC 50V 33P	1	
C4389		ECEA1AK330	ELECTROLYTIC 10V 33	1	
C4390		ECEA1AK101	ELECTROLYTIC 10V 100	1	
C4391		ECQV1H473JZ	MYLAR 50V 0.047	1	
C4393		ECEA1EK3R3	ELECTROLYTIC 25V 3.3	1	
C4394		ECEA1CK100	ELECTROLYTIC 16V 10	1	
C4395		ECQV1H104JZ	MYLAR 50V 0.1	1	
C4400		ECEA1EK3R3	ELECTROLYTIC 25V 3.3	1	
C4402		ECCF1H101KC	CERAMIC 50V 100	1	
C4403		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C4404		ECCF1H820KC	CERAMIC 50V 82	1	
C4405,4406		ECCF1H470KC	CERAMIC 50V 47P	2	
C4407		ECQB1H103KH	MYLAR 50V 0.01	1	
C4408		ECEA1EK3R3	ELECTROLYTIC 25V 3.3	1	
C4409		ECEA1CK100	ELECTROLYTIC 16V 10	1	
C4410		ECEA0JK101	ELECTROLYTIC 6.3V 100	1	
C4411		ECQB1H562KH	MYLAR 50V 5600P	1	
C4412		ECEA0JK220	ELECTROLYTIC 6.3V 22	1	
C4413		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C4414		ECEA0JK101	ELECTROLYTIC 6.3V 100	1	
C4415		ECCF1H680JC	CERAMIC 50V 68P	1	
C4416		ECKF1H331KB	CERAMIC 50V 330P	1	
C4417		ECEA0JK101	ELECTROLYTIC 6.3V 100	1	
C4420,4421		ECKF1H103ZF	CERAMIC 50V 0.01	2	
C4422		ECEA1CK470	ELECTROLYTIC 16V 47	1	
C4423		ECCF1H100FC	CERAMIC 50V 10	1	
C4424-4428		ECKF1H103ZF	CERAMIC 50V 0.01	5	
C4429		ECEA1CK470	ELECTROLYTIC 16V 47	1	
C4430		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C4432-4435		ECKF1H103ZF	CERAMIC 50V 0.01	4	
C4436		ECEA1CK470	ELECTROLYTIC 16V 47	1	
C4437		ECEA1HK010	ELECTROLYTIC 50V 1	1	
C4438,4439		ECKF1H103ZF	CERAMIC 50V 0.01	2	
C4440		ECEA1HK010	ELECTROLYTIC 50V 1	1	
C4441		ECEA1AK330	ELECTROLYTIC 10V 33	1	
C4442		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C4443-4445		ECEA1CK100	ELECTROLYTIC 16V 10	3	
C4446		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C4448		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C4449		ECCF1H680KC	CERAMIC 50V 68P	1	
C4450-4452		ECKF1H103ZF	CERAMIC 50V 0.01	3	
C4454,4455		ECKF1H103ZF	CERAMIC 50V 0.01	2	
C4456		ECEA1EK4R7	ELECTROLYTIC 25V 4.7	1	
C4457,4458		ECKF1H103ZF	CERAMIC 50V 0.01	2	
C4463		ECEA0JK470	ELECTROLYTIC 6.3V 47	1	
C4464		ECKF1H103ZF	CERAMIC 50V 0.01	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C4465,4466		ECCF1H331J	CERAMIC 50V 330P	2	
C4467,4468		ECEA1CK100	ELECTROLYTIC 16V 10	2	
C4469,4470		ECQB1H222KH	MYLAR 50V 2200P	2	
C4485		ECQM1H122JV	MYLAR 50V 1200P	1	
C4486		ECCF1H471J	CERAMIC 50V 470P	1	
C4487		ECQM1H122JV	MYLAR 50V 1200P	1	
C4488		ECCF1H331J	CERAMIC 50V 330P	1	
C4489		ECQM1H122JV	MYLAR 50V 1200P	1	
C4490		ECCF1H471J	CERAMIC 50V 470P	1	
C4491		ECQM1H122JV	MYLAR 50V 1200P	1	
C4492		ECCF1H331J	CERAMIC 50V 330P	1	
C4493,4494		ECQB1H103JH	MYLAR 50V 0.01	2	
C4496,4497		ECEA16M10	ELECTROLYTIC 16V 1	2	
C4498		ECEA1CK100	ELECTROLYTIC 16V 10	1	
C4499		ECEA1CK220	ELECTROLYTIC 16V 22	1	
C4500		ECEA1CK100	ELECTROLYTIC 16V 10	1	
C4501		ECEA1CK220	ELECTROLYTIC 16V 22	1	
C4502,4503		ECQB1H272KH	MYLAR 50V 2700P	2	
C4504		ECCF1H101J	CERAMIC 50V 100	1	
C4505		ECCF1H391J	CERAMIC 50V 390	1	
C4506		ECCF1H101J	CERAMIC 50V 100	1	
C4507		ECCF1H391J	CERAMIC 50V 390	1	
C4508		ECCF1H100FC	CERAMIC 50V 10	1	
C4509,4510		ECKF1H152KB	CERAMIC 50V 1500P	2	
			COILS		
L4301		VLQEL05F121K	120UH	1	
L4304,4305		VLQEL05F101K	100UH	2	
L4307,4308		VLQEL05F3R3K	3.3UH	2	
L4309		VLQEL05F330K	33UH	1	
L4310-4313		VLQEL05F101K	100UH	4	
L4315		VLQEL05F101K	100UH	1	
			FILTERS		
FL4305		VLF0317A	B.P.F.	1	
FL4306		VLF0318A	B.P.F.	1	
			CONNECTORS		
P4301		VJP1233	6P	1	
P4302		VJP1231	4P	1	
P4304		VJP1232	5P	1	
P4305		VJP1231	4P	1	
P4307		VJP1235	8P	1	
P4309		VJP1232	5P	1	
			MISCELLANEOUS		
		VMP0407	CIRCUIT BOARD ANGLE	1	
		VMP0408	CIRCUIT BOARD ANGLE	1	
		VSC1020	SHIELD CASE,MIDDLE	1	
		VSC1021	SHIELD CASE,LOWER	1	
	■	VEP04116B	NORMAL AUDIO (1) C.B.A.		
	■	VEP04118B	NORMAL AUDIO (2) C.B.A.		
			INTEGRATED CIRCUITS		
IC4001		UPC4558C		1	R
IC4002		HA12005		1	R
IC4003		NE650N		1	R
IC4004		UPC4558C		1	OR M521P
IC4006		HA12005		1	
IC4007		NE650N		1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC4009		AN6912		1	OR UPC339 R
IC4010		AN360		1	R
IC4011		UPC4558C		1	OR M5218P
IC4012		UPC4558C		1	OR M5218P
IC4013		UPC4558C		1	
IC4014		UPD4066BC		1	R
IC4015		UPD4066BC		1	
IC4016		UPC451C		1	R
IC4017		BA6138		1	R
			TRANSISTORS		
Q4002		2SD636		1	(Q,R) R
Q4004		2SD636		1	(Q,R)
Q4006		2SD636		1	(Q,R)
Q4008,4009		2SD636		2	(Q,R)
Q4010		2SD655		1	R
Q4011-4013		2SD636		3	(Q,R)
Q4014		2SB641		1	(Q,R) R
Q4015-4017		2SD636		3	(Q,R)
Q4018		2SD655		1	
Q4019		2SD636		1	(Q,R)
Q4020,4021		2SD636		2	(Q,R)
Q4022		2SD641		1	(Q,R)
Q4024,4025		2SD636		2	(Q,R)
Q4046-4049		2SD636		4	(Q,R)
Q4075,4076		2SD655		2	
Q4077		2SD973A		1	(R) R
Q4079		2SD973A		1	(R)
Q4080,4081		2SB643		2	(Q,R,S) R
			COMBINATION PARTS		
			(TRANSISTORS & RESISTOR)		
QR4001		UN1211		1	OR DTC114A R
QR4002-		UN1212		4	OR DTC124A R
4005					R
QR4006-		UN1114		3	OR DTA114YA R
4008					
QR4009		UN1211		1	
QR4010		UN1213		1	OR DTC144A R
QR4011		UN1213		1	OR DTC144A
QR4012		UN1211		1	
QR4013		UN1211		1	
QR4014		UN1213		1	
QR4015		UN1211		1	OR DTC114A
QR4016		UN1213		1	OR DTC144A
QR4017		UN1213		1	OR DTC144A
QR4018		UN1213		1	
			DIODES		
D4005-4009		MA165		5	R
D4014,4015		MA165		2	
D4018,4019		MA165		2	
D4020,4021		MA165		2	
D4038		RD6.2EB	ZENER	1	OR MA1062M R
D4039		MA165		1	
D4040		RD3.3EB	ZENER	1	R
D4043-4046		MA165		4	
D4048,4049		MA165		2	
D4063		MA165		1	
D4066,4067		MA165		2	
D4071-4074		MA165		4	
D4080		MA165		1	
D4081		RD6.2EB	ZENER	1	OR MA1062M
D4086-4090		MA165		5	
D4098		MA165		1	
D4108-4111		MA165		4	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			RESISTORS		
R4003		ERDS2TJ562	5.6K	1	
R4004,4005		ERDS2TJ102	1K	2	
R4006		ERDS2TJ562	5.6K	1	
R4009		ERDS2TJ473	47K	1	
R4010		ERDS2TJ154	150K	1	
R4011		ERDS2TJ222	2.2K	1	
R4014		ERDS2TJ562	5.6K	1	
R4015		ERDS2TJ154	150K	1	
R4016		ERDS2TJ102	1K	1	
R4017		ERDS2TJ562	5.6K	1	
R4019,4020		ERDS2TJ102	1K	2	
R4021		ERDS2TJ154	150K	1	
R4022		ERDS2TJ222	2.2K	1	
R4023		ERDS2TJ154	150K	1	
R4024		EVN38CA00B14	VARIABLE 10K	1	
R4029		ERDS2TJ221	220	1	
R4030		EVN38CA00B53	VARIABLE 5K	1	
R4031		ERDS2TJ224	220K	1	
R4032		ERDS2TJ102	1K	1	
R4033		EVM38GA00B24	VARIABLE 20K	1	
R4034		ERDS2TJ152	1.5K	1	
R4035		ERDS2TJ104	100K	1	
R4036		ERDS2TJ222	2.2K	1	
R4037		EVN38CA00B14	VARIABLE 10K	1	
R4038		ERDS2TJ472	4.7K	1	
R4039		ERDS2TJ562	5.6K	1	
R4040		EVN38CA00B14	VARIABLE 10K	1	
R4041		ERDS2TJ182	1.8K	1	
R4042		ERDS2TJ102	1K	1	
R4043		ERDS2TJ182	1.8K	1	
R4051		ERDS2TJ154	150K	1	
R4052,4053		ERDS2TJ682	6.8K	2	
R4055		ERDS2TJ223	22K	1	
R4056		ERDS2TJ104	100K	1	
R4057		ERDS2TJ223	22K	1	
R4061		ERDS2TJ102	1K	1	
R4062		ERDS2TJ393	39K	1	
R4065		ERDS2TJ104	100K	1	
R4066		ERDS2TJ102	1K	1	
R4067,4068		ERDS2TJ472	4.7K	2	
R4069		ERDS2TJ824	820K	1	
R4070		ERDS2TJ822	8.2K	1	
R4071		ERDS2TJ562	5.6K	1	
R4072		EVN38CA00B14	VARIABLE 10K	1	
R4073		ERDS2TJ102	1K	1	
R4074,4075		ERDS2TJ102	1K	2	
R4076		ERDS2TJ184	180K	1	
R4077		ERDS2TJ274	270K	1	
R4078		ERDS2TJ182	1.8K	1	
R4079		ERDS2TJ473	47K	1	
R4080		EROS2CKF3301	METAL 3.3K	1	
R4081		ERDS2TJ181	180	1	
R4082		ERDS2TJ102	1K	1	
R4083		ERDS2TJ223	22K	1	
R4084		ERDS2TJ333	33K	1	
R4085		ERDS2TJ103	10K	1	
R4086		EVM38GA00B53	VARIABLE 5K	1	
R4087		ERDS2TJ183	18K	1	
R4088,4089		ERDS2TJ104	100K	2	
R4090		ERDS2TJ223	22K	1	
R4095		ERDS2TJ153	15K	1	
R4096		ERDS2TJ820	82	1	
R4097		ERDS2TJ182	1.8K	1	
R4106		ERDS2TJ221	220	1	
R4107		ERDS2TJ224	220K	1	
R4108		EVN38CA00B53	VARIABLE 5K	1	
R4109		ERDS2TJ102	1K	1	
R4110		EVM38GA00B24	VARIABLE 20K	1	
R4111		ERDS2TJ152	1.5K	1	
R4112		ERDS2TJ104	100K	1	
R4113		ERDS2TJ222	2.2K	1	
R4114		ERDS2TJ102	1K	1	
R4115		ERDS2TJ472	4.7K	1	
R4117		ERDS2TJ104	100K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4118		ERDS2TJ102	1K	1	
R4120		ERDS2TJ123	12K	1	
R4126		ERDS2TJ154	150K	1	
R4128,4129		ERDS2TJ682	6.8K	2	
R4131		ERDS2TJ104	100K	1	
R4135		ERDS2TJ102	1K	1	
R4136		ERDS2TJ393	39K	1	
R4139		ERDS2TJ104	100K	1	
R4140		ERDS2TJ102	1K	1	
R4141,4142		ERDS2TJ472	4.7K	2	
R4143		ERDS2TJ824	820K	1	
R4144		ERDS2TJ822	8.2K	1	
R4145		ERDS2TJ562	5.6K	1	
R4146		ERDS2TJ473	47K	1	
R4147		ERDS2TJ104	100K	1	
R4148,4149		ERDS2TJ102	1K	2	
R4150		ERDS2TJ184	180K	1	
R4151		ERDS2TJ182	1.8K	1	
R4152		ERDS2TJ274	270K	1	
R4153		ERDS2TJ473	47K	1	
R4154		EROS2CKF3301	METAL 3.3K	1	
R4155		ERDS2TJ181	180	1	
R4156		ERDS2TJ102	1K	1	
R4157		ERDS2TJ223	22K	1	
R4158		ERDS2TJ333	33K	1	
R4159		ERDS2TJ103	10K	1	
R4160		EVM38GA00B53	VARIABLE 5K	1	
R4161		ERDS2TJ104	100K	1	
R4162		ERDS2TJ183	18K	1	
R4163		ERDS2TJ104	100K	1	
R4164		ERDS2TJ223	22K	1	
R4169		ERDS2TJ153	15K	1	
R4170		ERDS2TJ820	82	1	
R4171		ERDS2TJ182	1.8K	1	
R4217,4218		ERDS2TJ103	10K	2	
R4219		ERDS2TJ564	560K	1	
R4220		ERDS2TJ104	100K	1	
R4221		ERDS2TJ332	3.3K	1	
R4222,4223		ERDS2TJ103	10K	2	
R4224		ERDS2TJ332	3.3K	1	
R4225		ERDS2TJ105	1M	1	
R4226		ERDS2TJ223	22K	1	
R4227		ERDS2TJ103	10K	1	
R4228		ERDS2TJ562	5.6K	1	
R4229		ERDS2TJ103	10K	1	
R4230		ERDS2TJ102	1K	1	
R4231		ERDS2TJ472	4.7K	1	
R4232		ERDS2TJ563	56K	1	
R4233		ERDS2TJ121	120	1	
R4234		ERDS2TJ560	56	1	
R4235		ERDS2TJ102	1K	1	
R4236		ERDS2TJ474	470K	1	
R4237		ERDS2TJ563	56K	1	
R4238		ERDS2TJ102	1K	1	
R4239,4240		ERDS2TJ223	22K	2	
R4241		ERDS2TJ563	56K	1	
R4242		ERDS2TJ105	1M	1	
R4243		ERDS2TJ103	10K	1	
R4244		ERDS2TJ104	100K	1	
R4245		ERDS2TJ103	10K	1	
R4246		ERDS2TJ332	3.3K	1	
R4247		ERDS2TJ562	5.6K	1	
R4248		ERDS2TJ332	3.3K	1	
R4249		ERDS2TJ103	10K	1	
R4250		ERDS2TJ821	820	1	
R4251		ERDS2TJ560	56	1	
R4252		ERDS2TJ103	10K	1	
R4255		ERDS2TJ332	3.3K	1	
R4256		ERDS2TJ152	1.5K	1	
R4257-4259		ERDS2TJ223	22K	3	
R4263-4266		ERDS2TJ104	100K	4	
R4267,4268		ERDS2TJ473	47K	2	
R4269,4270		ERDS2TJ104	100K	2	
R4273,4274		ERDS2TJ105	1M	2	
R4306		ERDS2TJ102	1K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4310		ERDS2TJ563	56K	1	
R4315		ERDS2TJ104	100K	1	
R4316		ERDS2TJ332	3.3K	1	
R4318		ERDS2TJ473	47K	1	
R4321		ERDS2TJ224	220K	1	
R4327		ERDS2TJ224	220K	1	
R4328		ERDS2TJ223	22K	1	
R4331		ERDS2TJ563	56K	1	
R4336		ERDS2TJ103	10K	1	
R4337		ERDS2TJ223	22K	1	
R4338		ERDS2TJ333	33K	1	
R4339,4340		ERDS2TJ103	10K	2	
R4341		ERDS2TJ333	33K	1	
R4342		ERDS2TJ103	10K	1	
R4343		ERDS2TJ331	330	1	
R4344		ERDS2TJ105	1M	1	
R4345		ERDS2TJ223	22K	1	
R4346		ERDS2TJ331	330	1	
R4347,4348		ERDS2TJ222	2.2K	2	
R4349		ERDS2TJ183	18K	1	
R4350		ERDS2TJ4R7	4.7	1	
R4351,4352		EVM38GA00B25	VARIABLE 200K	2	
R4353		ERDS2TJ105	1M	1	
R4354		ERDS2TJ223	22K	1	
R4355		ERDS2TJ4R7	4.7	1	
R4356		ERDS2TJ183	18K	1	
R4357		ERDS2TJ332	3.3K	1	
R4358		ERDS2TJ123	12K	1	
R4359,4360		EVN38CA00B14	VARIABLE 10K	2	
R4361,4362		ERDS2TJ104	100K	2	
R4363,4364		ERDS2TJ103	10K	2	
R4366		ERDS2TJ563	560	1	
R4367,4368		ERDS2TJ103	10K	2	
R4369-4371		ERDS2TJ104	100K	3	
R4390		ERDS2TJ102	1K	1	
R4402		ERDS2TJ122	1.2K	1	
R4425		ERDS2TJ562	5.6K	1	
R4428		ERDS2TJ103	10K	1	
R4446		ERDS2TJ223	22K	1	
R4447		ERDS2TJ103	10K	1	
R4448		ERDS2TJ123	12K	1	
R4449		ERDS2TJ103	10K	1	
R4450		ERDS2TJ123	12K	1	
R4451		ERDS2TJ103	10K	1	
R4452		ERDS2TJ223	22K	1	
R4453		ERDS2TJ103	10K	1	
R4454		ERDS2TJ123	12K	1	
R4455		ERDS2TJ103	10K	1	
R4484,4485		ERDS2TJ103	10K	2	
R4486		ERDS2TJ223	22K	1	
R4487		ERDS2TJ103	10K	1	
R4488,4489		ERDS2TJ562	5.6K	2	
R4490		ERDS2TJ683	68K	1	
			CAPACITORS		
C4002		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C4005		ECEA16M10R	ELECTROLYTIC 16V 10	1	
C4006		ECKF1H102KB	CERAMIC 50V 1000P	1	
C4007		ECEA10M33	ELECTROLYTIC 10V 33	1	
C4008		ECQV1H393JZ	MYLAR 50V 0.039	1	
C4009		ECKF1H102KB	CERAMIC 50V 1000P	1	
C4011		ECEA1HU2R2	ELECTROLYTIC 50V 2.2	1	
C4012		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C4013		ECEA1CU470	ELECTROLYTIC 16V 47	1	
C4014		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C4015		ECQM1H223JV	MYLAR 50V 0.022	1	
C4019		ECKF1H221KB	CERAMIC 50V 220P	1	
C4023		ECEA1CU471	ELECTROLYTIC 16V 470	1	
C4024		ECEA1CU101	ELECTROLYTIC 16V 100	1	
C4027		ECEA10M33	ELECTROLYTIC 16V 33	1	
C4028		ECKF1H102KB	CERAMIC 50V 1000P	1	
C4029		ECEA50M1	ELECTROLYTIC 50V 1	1	
C4031		ECEA1CN100S	ELECTROLYTIC 16V 10	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C4032		ECEA1HU010	ELECTROLYTIC 50V 1	1	
C4033		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C4034		ECQM1H273JV	MYLAR 50V 0.027	1	
C4035		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C4036		ECEA0JU221	ELECTROLYTIC 6.3V 220	1	
C4037		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C4038		ECQV1H334JZ	MYLAR 50V 0.33	1	
C4039		ECQV1H104JZ	MYLAR 50V 0.1	1	
C4040		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C4041		ECQV1H473JZ	MYLAR 50V 0.047	1	
C4042		ECEA1CU101	ELECTROLYTIC 16V 100	1	
C4043		ECEA1CU221	ELECTROLYTIC 16V 220	1	
C4044		ECQP1472FZ	MYLAR 100V 4700P	1	
C4045		ECQP1273FZ	MYLAR 100V 0.027	1	
C4046		ECKF1H102KB	CERAMIC 50V 1000P	1	
C4047		ECQP1562FZ	MYLAR 100V 5600P	1	
C4048		ECQP1472FZ	MYLAR 100V 4700P	1	
C4049		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C4050		ECEA50ZR1	ELECTROLYTIC 50V 0.1	1	
C4051		ECEA1HU010	ELECTROLYTIC 50V 1	1	
C4055		ECQM1H183JV	MYLAR 50V 0.018	1	
C4056		ECEA1CU470	ELECTROLYTIC 16V 47	1	
C4058		ECEA1HU010	ELECTROLYTIC 50V 1	1	
C4065		ECKF1H221KB	CERAMIC 50V 220P	1	
C4066		ECEA16M10R	ELECTROLYTIC 16V 10	1	
C4067		ECKF1H102KB	CERAMIC 50V 1000P	1	
C4068		ECEA10M33	ELECTROLYTIC 10V 33	1	
C4069		ECQV1H393JZ	MYLAR 50V 0.039	1	
C4070		ECKF1H102KB	CERAMIC 50V 1000P	1	
C4071		ECEA1CU100	ELECTROLYTIC 10V 10	1	
C4072		ECEA1HU2R2	ELECTROLYTIC 50V 2.2	1	
C4073,4074		ECEA1CU100	ELECTROLYTIC 16V 10	2	
C4075		ECEA1CU330	ELECTROLYTIC 16V 33	1	
C4076		ECQM1H223JV	MYLAR 50V 0.022	1	
C4080		ECEA1CU471	ELECTROLYTIC 16V 470	1	
C4083		ECEA1CU101	ELECTROLYTIC 16V 100	1	
C4086		ECEA10M33	ELECTROLYTIC 10V 33	1	
C4087		ECKF1H102KB	CERAMIC 50V 1000P	1	
C4088		ECEA50M1	ELECTROLYTIC 50V 1	1	
C4090-4092		ECEA1CU100	ELECTROLYTIC 16V 10	3	
C4093		ECEA1HU010	ELECTROLYTIC 50V 1	1	
C4094		ECQB1H273JH	MYLAR 50V 0.027	1	
C4095		ECEA0JU221	ELECTROLYTIC 6.3V 220	1	
C4096		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C4097		ECQP1472FZ	MYLAR 100V 4700P	1	
C4098		ECQP1273FZ	MYLAR 100V 0.027	1	
C4099		ECKF1H102KB	CERAMIC 50V 1000P	1	
C4100		ECQP1562FZ	MYLAR 100V 5600P	1	
C4101		ECQP1472FZ	MYLAR 100V 4700P	1	
C4102		ECEA1HU010	ELECTROLYTIC 50V 1	1	
C4103		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C4104		ECEA1HU010	ELECTROLYTIC 50V 1	1	
C4105		ECEA50ZR1	ELECTROLYTIC 50V 0.1	1	
C4106		ECEA1HU010	ELECTROLYTIC 50V 1	1	
C4107		ECEA1CSS221	ELECTROLYTIC 16V 220	1	
C4108		ECQV1H334JZ	MYLAR 50V 0.33	1	
C4109		ECQV1H104JZ	MYLAR 50V 0.1	1	
C4110		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C4111		ECQV1H473JZ	MYLAR 50V 0.047	1	
C4112		ECEA1CU101	ELECTROLYTIC 16V 100	1	
C4113		ECEA1HU010	ELECTROLYTIC 50V 1	1	
C4116		ECEA1CU101	ELECTROLYTIC 16V 100	1	
C4118		ECQM1H183JV	MYLAR 50V 0.018	1	
C4119		ECEA1CU470	ELECTROLYTIC 16V 47	1	
C4160,4161		ECEA1CU330	ELECTROLYTIC 16V 33	2	
C4162		ECEA1HU010	ELECTROLYTIC 50V 1	1	
C4163		ECEA1CU101	ELECTROLYTIC 16V 100	1	
C4164		ECEA1CU330	ELECTROLYTIC 16V 33	1	
C4165		ECCF1H330KC	CERAMIC 50V 33P	1	
C4166		ECQM1H822KV	MYLAR 50V 8200P	1	
C4167		ECEA1CU101	ELECTROLYTIC 16V 100	1	
C4168		ECEA1HN010S	ELECTROLYTIC 50V 1	1	
C4169		ECEA1EU4R7	ELECTROLYTIC 25V 4.7	1	
C4170		ECEA1CU101	ELECTROLYTIC 16V 100	1	
C4171		ECEA0JU101	ELECTROLYTIC 6.3V 100	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C4173		ECEA1HN010S	ELECTROLYTIC 50V 1	1	
C4174		ECEA1CU101	ELECTROLYTIC 16V 100	1	
C4175		ECEA1CU330	ELECTROLYTIC 16V 33	1	
C4178,4179		ECEA1HU4R7	ELECTROLYTIC 50V 4.7	2	
C4200		ECEA1CU470	ELECTROLYTIC 16V 47	1	
C4204		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C4206		ECEA1CU330	ELECTROLYTIC 16V 33	1	
C4208		ECEA1CU470	ELECTROLYTIC 16V 47	1	
C4209,4210		ECEA1CU101	ELECTROLYTIC 16V 100	2	
C4211		ECEA1CU470	ELECTROLYTIC 16V 47	1	
C4213		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C4219		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C4221		ECEA1CU330	ELECTROLYTIC 16V 33	1	
C4222		ECEA1CU470	ELECTROLYTIC 16V 47	1	
C4223		ECEA1CU330	ELECTROLYTIC 16V 33	1	
C4224		ECEA1CU470	ELECTROLYTIC 16V 47	1	
C4226		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C4227		ECEA1CU470	ELECTROLYTIC 16V 47	1	
C4228		ECQM1H332KV	MYLAR 50V 3300P	1	
C4229		ECQM1H472KV	MYLAR 50V 4700P	1	
C4231,4232		ECKD2H151KB	CERAMIC 500V 150P	2	
C4233		ECQF6182KZ	MYLAR 630V 1800P	1	
C4234		ECQV1H124JZ	MYLAR 50V 0.12	1	
C4236		ECQM1H103JV	MYLAR 50V 0.01	1	
C4237		ECQB1H333JH	MYLAR 50V 0.033	1	
C4238		ECQM2333KZ	MYLAR 200V 0.033	1	
C4239		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C4250		ECEA1HU4R7	ELECTROLYTIC 50V 4.7	1	
C4260,4261		ECEA1CU100	ELECTROLYTIC 16V 10	2	
C4262,4263		ECEA1CU101	ELECTROLYTIC 16V 100	2	
C4301		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C4302		ECEA1EU3R3	ELECTROLYTIC 25V 3.3	1	
C4303,4304		ECEA1CU100	ELECTROLYTIC 16V 10	2	
C4305		ECEA1EU4R7	ELECTROLYTIC 25V 4.7	1	
C4307		ECEA50ZR68	ELECTROLYTIC 50V 0.68	1	
C4308		ECEA1EU4R7	ELECTROLYTIC 25V 4.7	1	
C4309		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C4310		ECEA50ZR68	ELECTROLYTIC 50V 0.68	1	
C4311		ECEA1EU4R7	ELECTROLYTIC 25V 4.7	1	
C4312,4313		ECEA1CU100	ELECTROLYTIC 16V 10	2	
C4314,4315		ECQM1H332JV	MYLAR 50V 3300P	2	
C4316		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C4317		ECEA1CU470	ELECTROLYTIC 16V 47	1	
C4318		ECEA1EU4R7	ELECTROLYTIC 25V 4.7	1	
C4319-4321		ECEA1CU330	ELECTROLYTIC 16V 33	3	
C4322		ECEA1CU470	ELECTROLYTIC 16V 47	1	
C4323		ECEA1CU330	ELECTROLYTIC 16V 33	1	
C4324,4325		ECEA1EU100	ELECTROLYTIC 25V 10	2	
C4328		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C4340,4341		ECQM1H562JV	MYLAR 50V 5600P	2	
C4342		ECQM1H102JV	MYLAR 50V 1000P	1	
			COILS		
L4001		VLF0166	FILTER	1	
L4003		VLQ0123	10mH	1	
L4004		VLF0166	FILTER	1	
L4005		VLQ80F102K	1mH	1	
L4006		VLQ0123	10mH	1	
L4013		VLQ80F102K	1mH	1	
L4021		VLQ80F102K	1mH	1	
L4022		VLQEL06F221K	220UH	1	
L4023		VLQ24F102K25	1mH	1	
L4024		VLQ80F102K	1mH	1	
			TRANSFORMERS		
T4001		VLT0147		1	
T4002		VLT0118A		1	
			RELAY		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
RY4001		VSY1015		1	R
RY4002		VSY1015		1	R
RY4003		VSY2035		1	R
RY4004		VSY2032		1	
			CONNECTORS		
P4001		VJP1229	2P	1	
P4002,4003		VJP1230	3P	2	
P4004		VJP1233	6P	1	
P4005		VJP1229	2P	1	
P4006		VJP1235	8P	1	
P4007		VJP1237	10P	1	
P4008		VJP1235	8P	1	
P4009		VJP1233	6P	1	
P4010		VJP1231	4P	1	
P4011,4012		VJP1232	5P	2	
P4013		VJP1230	3P	1	
P4014		VJP1232	5P	1	
P4015		VJP1231	4P	1	
P4016		VJP1229	2P	1	
	■	VEP06279C	FRONT CPU C.B.A.		
			INTEGRATED CIRCUIT		
IC6201		UPD1511AC022		1	R
			TRANSISTORS		
Q6202-6204		2SB643		3	(Q,R) R
Q6205		2SD636		1	(Q,R) R
Q6206		2SC641		1	R
Q6207		2SD636		1	(Q,R)
Q6208		2SB641		1	(Q,R)
Q6209		2SD636		1	(Q,R)
Q6210		2SD661		1	(Q,R) R
Q6214		2SD637		1	(Q,R) R
Q6215,6216		2SD636		2	(Q,R)
			COMBINATION PARTS		
			(TRANSISTORS & RESISTOR)		
QR6201-		UN1216		4	OR DTC143TA R
6204					
QR6205		UN1212		1	OR DTC124A R
			DIODES		
D6201		MA1051		1	R
D6202		MA162		1	R
D6203		MA1300		1	R
D6204-6212		MA165		9	R
			RESISTORS		
R6201		ERDS2TJ471	470	1	
R6202-6204		ERDS2TJ103	10K	3	
R6206-6208		ERDS2TJ272	2.7K	3	
R6209		ERDS2TJ104	100K	1	
R6210		ERDS2TJ103	10K	1	
R6218		ERDS2TJ273	27K	1	
R6219		ERDS2TJ472	4.7K	1	
R6222		ERDS2TJ682	6.8K	1	
R6223		ERDS2TJ330	33	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R6226		ERDS2TJ104	100K	1	
R6227,6228		ERDS2TJ223	22K	2	
R6229		ERDS2TJ221	220	1	
R6230		ERDS2TJ104	100K	1	
R6231		ERDS2TJ563	56K	1	
R6233,6234		ERDS2TJ223	22K	2	
R6236		ERDS2TJ103	10K	1	
R6237,6238		ERDS2TJ104	100K	2	
R6239		ERDS2TJ103	10K	1	
R6240-6242		ERDS2TJ102	1K	3	
R6244		ERDS2TJ393	39K	1	
R6245		ERDS2TJ393	39K	1	
			RESISTOR ARRAY		
RA6201		EXBP84103K	10K X 4	1	
RA6202		EXBP84103K	10K X 4	1	
			CAPACITORS		
C6201,6202		ECCF1H680JC	CERAMIC 50V 68P	2	
C6203		ECEA50ZR22	ELECTROLYTIC 50V 0.22	1	
C6204		ECEA1CK470	ELECTROLYTIC 16V 47	1	
C6205		ECEA1CK100	ELECTROLYTIC 16V 10	1	
C6206,6207		ECEA1CK470	ELECTROLYTIC 16V 47	2	
C6208		ECQM1H332KV	MYLAR 50V 3300P	1	
C6209		ECQM1H102KV	MYLAR 50V 1000P	1	
C6210		ECEA1HK4R7	ELECTROLYTIC 50V 4.7	1	
			COILS		
L6201		VLQ80F470K	47UH	1	
L6202		VLQ80F102K	1mH	1	
			TRANSFORMER		
T6201		VLT0203A		1	
			CRYSTAL OSCILLATOR		
X6201		VSX0082		1	R
			SWITCHES		
SW6201		ESD14161		1	R
SW6202		ESD14161		1	R
SW6205		ESD14161		1	R
SW6206		ESD14161		1	R
			CONNECTORS		
P6201		VJP1235	8P	1	
P6202		VJP1237	10P	1	
P6203		VJP1248	8P	1	
P6204		VJP1252	12P	1	
P6205,6206		VJP1248	8P	2	
P6207		VJP1245	5P	1	
P6212,6213		VJP1248	8P	2	
			MISCELLANEOUS		
		VSE0064	HOUR METER	1	R
		VMX0858	HOUR METER SPACER, UPPER	1	
		VMX0859	HOUR METER SPACER, LOWER	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP06280A1	COUNTER C.B.A.		
			INTEGRATED CIRCUITS		
IC6301		AN6873N		1	OR MSL915RS R
IC6302		UPD1512AC055		1	R
IC6303		AN6873N		1	OR MSL915RS R
			TRANSISTORS		
Q6301		2SC641		1	R
Q6302,6303		2SD636		2	(Q,R) R
			DIODES		R
D6301,6302		EBG5504S		2	R
D6303		VLL0032		1	R
D6304		HZ4BLL		1	R
D6305		MA165		1	R
D6306		VLL0030		1	R
			RESKSTORS		
R6301,6302		ERDS2TJ103	10K	2	
R6303		ERDS2TJ104	100K	1	
R6304-6306		ERDS2TJ561	560	3	
R6307-6309		ERDS2TJ103	10K	3	
R6310		ERDS2TJ561	560	1	
R6311		ERDS2TJ104	100K	1	
			RESISTOR ARRAY		
RA6301		EXBP85103K	10K X 5	1	
RA6302		EXBP85103K	10K X 5	1	
			CAPACITORS		
C6301,6302		ECCF1H680JC	CERAMIC 50V 8P	2	
C6303,6304		ECEA0JU470	ELECTROLYTIC 6.3V 47	2	
C6305		ECEA1CK100	ELECTROLYTIC 16V 10	1	
C6306		ECEA1HU010	ELECTROLYTIC 50V 1	1	
			COIL		
L6301		VLQ80F470K	47UH	1	
			FILTER		
FL6301		VSL0023		1	
			CRYSTAL OSCILLATOR		
X6301		VSX0082		1	R
			SWCITHES		
S6301-6305		EVQQJ104K		5	R
			CONNECTORS		
P6301,6302		VJP1235	8P	2	
P6303		VJP1232	5P	1	
			MISCELLANEOUS		
		KL02	LED SPACER	1	
		VGQ0301	FIP HOLDER	2	
		VJF0303	LED COVER	1	
		VMP0491	CIRCUIT BOARD ANGLE	1	
		VMX0469	LED SPACER	2	
		VMX0473	LED HOLDER	3	
	■	VEP06281B1	SYSTEM CONTROL C.B.A.		
			INTEGRATED CIRCUITS		
IC6001		UPC339C		1	R
IC6002		HD7406P		1	R
IC6003		UPD1512AC075		1	R
IC6004		BA6238A		1	R
IC6006		BAL872		1	R
IC6007		UPC358C		1	R
IC6009		HD74LS148P		1	R
IC6010		UPD4011BC		1	R
IC6011		UPD4001BC		1	R
IC6012		UPD4001BC		1	
IC6013		UPC358C		1	
IC6014		UPD4071BC		1	R
IC6015		UPD4081BC		1	R
			TRANSISTORS		
Q6001		UN1213		1	OR DTC144EA R
Q6002		2SD636		1	(Q,R) R
Q6003		2SD637		1	(P,Q,R) R
Q6004		2SB644		1	(P,Q,R) R
Q6005		2SB819		1	(P,Q,R) R
Q6006-6012		2SD636		7	(Q,R)
Q6013		2SB641		1	(P,Q,R) R
Q6014-6020		2SD636		7	(Q,R)
Q6021		2SB643		1	(Q,R) R
Q6024		2SD636		1	(Q,R)
			COMBINATION PARTS		
			(TRANSISTORS & RESISTOR)		
QR6001		UN1113		1	OR ETA144A R
QR6002		UN1215		1	OR ETC114TA R
QR6003		UN1122		1	R
QR6004		UN1116		1	R
QR6005-		UN1213		3	OR DTC144A R
6007					R
QR6008		2SB641		1	(P,Q,R) R
QR6009		UN1213		1	R
			DIODES		
D6001-6004		MA165		4	R
D6005		RD10FB	ZENER	1	R
D6006-6009		MA1075		4	R
D6010-6017		MA165		8	
D6018		HZ4BLL		1	R
D6019-6027		MA165		9	
D6028,6029		10E1		2	R
D6030-6034		MA165		5	
D6035		RD4.7EB	ZENER	1	OR MA1047 R
D6036-6038		MA165		3	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			RESISTORS		
R6001		MA165		1	
R6002		ERDS2TJ473	47K	1	
R6003		ERDS2TJ153	15K	1	
R6004		ERDS2TJ472	4.7K	1	
R6005		ERDS2TJ473	47K	1	
R6006		ERDS2TJ333	33K	1	
R6007		ERDS2TJ223	22K	1	
R6008,6009		ERDS2TJ224	220K	2	
R6010		ERDS2TJ334	330K	1	
R6011		ERDS2TJ562	5.6K	1	
R6012		ERDS2TJ272	2.7K	1	
R6013		ERDS2TJ104	100K	1	
R6014		ERDS2TJ680	68	1	
R6015		ERDS2TJ103	10K	1	
R6016,6017		ERDS2TJ105	1M	2	
R6018		ERDS2TJ184	180K	1	
R6019		ERDS2TJ224	220K	1	
R6020		ERDS2TJ105	1M	1	
R6021-6027		ERDS2TJ103	10K	7	
R6028,6029		ERDS2TJ222	2.2K	2	
R6030,6031		ERDS1TJ181	180	2	
R6032,6033		ERDS2TJ682	6.8K	2	
R6034,6035		ERDS2TJ223	22K	2	
R6036,6037		ERDS2TJ153	15K	2	
R6038,6039		ERDS2TJ102	1K	2	
R6040		ERDS2TJ103	10K	1	
R6041		ERDS2TJ391	390	1	
R6042		ERDS2TJ105	1M	1	
R6043		ERDS2TJ103	10K	1	
R6044		ERDS2TJ104	100K	1	
R6045		ERDS2TJ103	10K	1	
R6046		ERDS2TJ150	15	1	
R6047		ERDS2TJ103	10K	1	
R6048		ERDS2TJ105	1M	1	
R6049		ERDS2TJ683	68K	1	
R6050		ERDS2TJ103	10K	1	
R6051		ERDS2TJ334	330K	1	
R6052		ERDS2TJ105	1M	1	
R6053,6054		ERDS2TJ564	560K	2	
R6055		ERDS2TJ123	12K	1	
R6056		ERDS2TJ824	820K	1	
R6057		ERDS2TJ103	10K	1	
R6058		ERDS2TJ105	1M	1	
R6059		ERDS2TJ103	10K	1	
R6060		ERDS2TJ334	330K	1	
R6061,6062		ERDS2TJ224	220K	2	
R6063		ERDS2TJ473	47K	1	
R6064		ERDS2TJ223	22K	1	
R6065		ERDS2TJ563	56K	1	
R6066		ERDS2TJ334	330K	1	
R6067		ERDS2TJ824	820K	1	
R6068		ERDS2TJ564	560K	1	
R6069		ERX1ANJR82	METAL 1W 0.82	1	
R6070		ERDS2TJ105	1M	1	
R6071		ERDS2TJ104	100K	1	
R6072-6074		ERDS2TJ105	1M	3	
R6075		ERDS2TJ824	820K	1	
R6076		ERDS2TJ104	100K	1	
R6077		ERDS2TJ473	47K	1	
R6078		ERDS2TJ105	1M	1	
R6079		ERDS2TJ273	27K	1	
R6080		ERDS2TJ394	390K	1	
R6081		ERDS2TJ154	150K	1	
R6082		ERDS2TJ104	100K	1	
R6083		ERDS2TJ394	390K	1	
R6084		ERDS2TJ103	10K	1	
R6085,6086		ERDS2TJ104	100K	2	
R6087		ERDS2TJ472	4.7K	1	
R6088		ERDS2TJ564	560K	1	
R6089		ERDS2TJ104	100K	1	
R6090		ERDS2TJ473	47K	1	
R6091		EVM38GA00B53	VARIABLE 5K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R6092		ERDS2TJ103	10K	1	
R6093		ERDS2TJ563	56K	1	
R6094		ERDS2TJ103	10K	1	
R6095		ERDS2TJ104	100K	1	
R6097		ERDS2TJ274	270K	1	
R6098		ERDS2TJ154	150K	1	
R6103		ERDS2TJ102	1K	1	
R6104,6105		ERDS2TJ105	1M	2	
R6106		ERDS2TJ273	27K	1	
R6107		ERDS2TJ152	1.5K	1	
R6108		ERDS2TJ392	3.9K	1	
R6109		ERDS2TJ473	47K	1	
R6110		ERDS2TJ472	4.7K	1	
R6111		ERDS2TJ332	3.3K	1	
R6112		ERDS2TJ563	56K	1	
			RESISTOR ARRAY		
RA6001		EXBP86103K	10K X 6	1	
RA6002		EXBP84103K	10K X 4	1	
RA6004		EXBP84103K	10K X 4	1	
			CAPACITORS		
C6001,6002		ECKF1H103ZF	CERAMIC 50V 0.01	2	
C6003		ECKF1H331KB	CERAMIC 50V 330P	1	
C6004		ECCF1H181KC	CERAMIC 50V 180P	1	
C6005		ECEA1EU4R7	ELECTROLYTIC 25V 4.7	1	
C6006		ECEA50ZR68	ELECTROLYTIC 50V 0.68	1	
C6007		ECKF1H472KB	CERAMIC 50V 4700P	1	
C6008-6013		ECEA1HU010	ELECTROLYTIC 50V 1	6	
C6014		ECEA0JU470	ELECTROLYTIC 6.3V 47	1	
C6015		ECEA1HU010	ELECTROLYTIC 50V 1	1	
C6016		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C6017		ECEA1HU010	ELECTROLYTIC 50V 1	1	
C6018,6019		ECCF1H680KC	CERAMIC 50V 68P	2	
C6020		ECEA0JU470	ELECTROLYTIC 6.3V 47	1	
C6021		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C6022		ECEA1HU010	ELECTROLYTIC 50V 1	1	
C6023		ECQV1H104JZ	MYLAR 50V 0.1	1	
C6024		ECEA1EU101	ELECTROLYTIC 25V 100	1	
C6026		ECEA50ZR22	ELECTROLYTIC 50V 0.22	1	
C6027		ECQV1H334JZ	MYLAR 50V 0.33	1	
C6028		ECEA1HU010	ELECTROLYTIC 50V 1	1	
C6029		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C6030		ECEA1CU220	ELECTROLYTIC 16V 22	1	
C6031		ECEA1HUR47	ELECTROLYTIC 50V 0.47	1	
C6032		ECKF1H102KB	CERAMIC 50V 1000P	1	
C6033		ECEA1HU010	ELECTROLYTIC 50V 1	1	
C6034		ECCF1H560KC	CERAMIC 50V 56P	1	
C6035		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C6036		ECEA1HU010	ELECTROLYTIC 50V 1	1	
C6037		ECEA0JU470	ELECTROLYTIC 6.3V 47	1	
C6038		ECEA1HU010	ELECTROLYTIC 50V 1	1	
C6039		ECEA1CU100	ELECTROLYTIC 16V 10	1	
C6040		ECEA1EU470	ELECTROLYTIC 25V 47	1	
C6041		ECEA1HU010	ELECTROLYTIC 50V 1	1	
C6042,6043		ECEA1HN2R2S	ELECTROLYTIC 50V 2.2	2	
C6044		ECEA1HN010S	ELECTROLYTIC 50V 1	1	
C6045		ECEA1EU4R7	ELECTROLYTIC 25V 4.7	1	
			COIL		
L6001		VLQEL06F470K	47UH	1	
			CRYSTAL OSCILLATOR		
X6001		VSX0082		1	R
X6002		VSX0115		1	R

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			CONNECTORS		
P6001,6002		VJP1232	5P	2	
P6003		VJP1233	6P	1	
P6004		VJP1237	10P	1	
P6005		VJP1239	12P	1	
P6006		VJP1231	4P	1	
P6007		VJP1239	12P	1	
P6008		VJP1233	6P	1	
P6009		VJP1232	5P	1	
P6010		VJP1231	4P	1	
P6011		VJP1230	3P	1	
P6012		VJP1229	2P	1	
P6013		VJP1230	3P	1	
P6014		VJP1229	2P	1	
P6015		VJP1232	5P	1	
P6016		VJP1233	6P	1	
P6017		VJP1229	2P	1	
			MISCELLANEOUS		
		VMP0326	CIRCUIT BOARD ANGLE	1	
	■	VJB00G36	TAPE TENSION CONTROL C.B.		
			INTEGRATED CIRCUITS		
IC6005		UPC393C		1	R
IC6008		UPD4013BC		1	R
			TRANSISTORS		
Q6026,6027		2SB641		2	(Q,R) R
Q6028		2SD636		1	(P,Q,R) R
			DIODES		
D6040-6042		MA165		3	R
			RESISTORS		
R6114		ERDS2TJ563	56K	1	
R6115		ERDS2TJ103	10K	1	
R6116		ERDS2TJ101	100	1	
R6117		ERDS2TJ563	56K	1	
R6118		ERDS2TJ105	1M	1	
R6119		ERDS2TJ104	100K	1	
R6120		ERDS2TJ123	12K	1	
R6121		ERDS2TJ103	10K	1	
R6122		ERDS2TJ224	220K	1	
R6123		ERDS2TJ105	1M	1	
R6124		ERDS2TJ563	56K	1	
R6125		ERDS2TJ682	6.8K	1	
R6126,6127		ERDS2TJ104	100K	2	
R6128		ERDS2TJ105	1M	1	
			CAPACITORS		
C6047		ECQB1H103KZ	MYLAR 50V 0.01	1	
C6048		ECQV1H394JZ	MYLAR 50V 0.39	1	
C6049		ECQM1H333KV	MYLAR 50V 0.033	1	
			CONNECTOR		
P6019		VJP1232	5P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■		34P CONNECTOR C.B.A.		
		VEP06219D			
			INTEGRATED CIRCUITS		
IC6601		UPD1511AC021		1	R
IC6602		HD7406P		1	R
			TRANSISTORS		
Q6601		2SC641		1	R
Q6602-6610		2SD636		9	(Q,R) R
			DIODES		
D6601,6602		MA165		2	R
			RESISTORS		
R6601,6602		ERDS2TJ103	10K	2	
R6603		ERDS2TJ104	100K	1	
R6604-6606		ERDS2TJ472	4.7K	3	
R6607-6617		ERDS2TJ103	10K	11	
R6618		ERDS2TJ563	56K	1	
R6619		ERDS2TJ103	10K	1	
R6620		ERDS2TJ104	100K	1	
R6621		ERDS2TJ102	1K	1	
R6622		ERDS2TJ562	5.6K	1	
R6623-6625		ERDS2TJ103	10K	3	
R6626		ERQ12AJ3R9	1/2W 3.9	1	
R6627		ERDS2TJ563	56K	1	
R6628		ERDS2TJ153	15K	1	
R6629,6630		ERDS2TJ103	10K	2	
R6631-6633		ERDS2TJ104	100K	3	
R6634		ERDS2TJ683	68K	1	
R6635		ERDS2TJ473	47K	1	
R6636		ERDS2TJ102	1K	1	
R6637		ERDS2TJ103	10K	1	
			RESISTOR ARRAY		
RA6601		EXBP88103K	10K X 8	1	
RA6602		EXBP86103K	10K X 6	1	
			CAPACITORS		
C6601		ECEA1CS470	ELECTROLYTIC 16V 47	1	
C6603,6604		ECCF1H680JC	CERAMIC 50V 68P	2	
C6605		ECEA1CK100	ELECTROLYTIC 16V 10	1	
C6606		ECEA0JK101	ELECTROLYTIC 6.3V 100	1	
C6607		ECEA1HK2R2	ELECTROLYTIC 50V 2.2	1	
C6608-6613		ECKF1H102ZF	CERAMIC 50V 1000P	6	
			CAPACITOR ARRAY		
CA6601		EXFP4102ZW	1000PX4	1	
CA6602		EXFP4102ZW	1000PX4	1	
CA6603		EXFP6102ZW	1000PX6	1	
			COIL		
L6601		VLQEL06F470K	47UH	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			CRYSTAL OSCILLATOR		
X6601		VSX0082		1	R
			CONNECTORS		
P6601		VJP1248	8P	1	
P6002		VJP1252	12P	1	
P6003		VJS1327	34P	1	
			MISCELLANEOUS		
		VMX0674	34P SPACER	1	
	■	VEP00E78A	FRONT JACK C.B.A.		
			INTEGRATED CIRCUITS		
IC6501		UPD4066BC		1	R
IC6502		NJM4556D		1	R
			TRANSISTORS		R
Q6501,6502		2SD636		2	(Q,R) R
Q6503,6504		2SD1330		2	
Q6505,6506		2SD636		2	(Q,R)
			DIODES		
D6501-6503		MA165		3	R
			RESISTORS		
R6501		ERDS2TJ393	39K	1	
R6502		ERDS2TJ683	68K	1	
R6503		ERDS2TJ393	39K	1	
R6504		ERDS2TJ683	68K	1	
R6505		ERDS2TJ104	100K	1	
R6506		ERDS2TJ103	10K	1	
R6507		ERDS2TJ333	33K	1	
R6508		ERDS2TJ104	100K	1	
R6509		ERDS2TJ333	33K	1	
R6510		ERDS2TJ103	10K	1	
R6511		ERDS2TJ224	220K	1	
R6512,6513		ERDS2TJ103	10K	2	
R6514		ERDS2TJ223	22K	1	
R6515,6516		ERDS2TJ562	5.6K	2	
R6517		ERDS2TJ333	33K	1	
R6518		ERDS2TJ102	1K	1	
R6519		ERDS2TJ333	33K	1	
R6520		ERDS2TJ102	1K	1	
R6521,6522		ERDS2TJ561	560	2	
R6523,6524		ERDS2TJ470	47	2	
R6525,6526		ERDS2TJ101	100	2	
R6527		ERDS2TJ102	1K	1	
R6528		ERDS2TJ121	120	1	
R6529,6530		ERDS2TJ102	1K	2	
R6531		ERDS2TJ121	120	1	
R6532		ERDS2TJ102	1K	1	
			CAPACITORS		
C6501		ECEA1CK101	ELECTROLYTIC 16V 100	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C6502		ECEA1CK100	ELECTROLYTIC 16V 10	1	
C6503		ECEA1CK101	ELECTROLYTIC 16V 100	1	
C6504,6505		ECEA1CK100	ELECTROLYTIC 16V 10	2	
C6506,6507		ECEA1CK101	ELECTROLYTIC 16V 100	2	
C6508,6509		ECEA1CK100	ELECTROLYTIC 16V 10	2	
			COIL		
L6561		VLQEL06F102K	1mH	1	
			CONNECTORS		
P6561		VJP1250	10P	1	
P6562		VJP1242	2P	1	
	■	VEP00E95A	REAR JACK PANEL C.B.A.		
			TRANSISTORS		
Q6661,6662		2SD636		2	(Q,R)
			DIODES		
D6661-6665		MA165		5	
D6667,6668		MA165		2	
D6670-6674		MA165		5	
			RESISTORS		
R6661		ERDS2TJ103	10K	1	
R6662		ERDS2TJ472	4.7K	1	
R6663-6665		ERDS2TJ103	10K	3	
R6666		ERDS2TJ750	75	1	
R6667		ERDS2TJ823	82K	1	
R6668		ERDS2TJ103	10K	1	
R6669		ERDS2TJ273	27K	1	
R6670,6671		ERDS2TJ563	56K	2	
R6674		ERDS2TJ750	75	1	
R6676		ERDS2TJ103	10K	1	
R6678		ERDS2TJ103	10K	1	
			SWITCHES		
SW6663		VES0244		1	R
SW6664		VES0244		1	R
			CONNECTORS		
P6661		VJP1252	12P	1	
P6662,6663		VJP1248	8P	2	
P6664		VJP1242	2P	1	
P6665		VJP1245	5P	1	
P6667		VJP1252	12P	1	
P6668		VJP1242	2P	1	
	■	VEP00E96A	LEFT CONTROL PANEL PANEL C.B.A.		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			DIODES		R
D6541-6546		VLL0025		6	
			RESISTORS		
R6541,6542		ERDS2TJ121	120	2	
R6543		ERDS2TJ393	39K	1	
R6544-6547		ERDS2TJ121	120	4	
			SWITCHES		
S6541		ESB641		1	R
S6542,6543		VSS0072		2	R
S6544		ESB641		1	R
			CONNECTORS		
P6541		VJP1248	8P	1	
P6542		VJP1245	5P	1	
P6543		VJP1235	8P	1	
P6544,6545		VJP1245	5P	2	
P6546		VJP1244	4P	1	
			MISCELLANEOUS		
		VJF0302	LED HOLDER	2	
		VMX0861	LED SPACER	6	
	■		KEY BOARD UNIT		
		ESB9479			
			DIODES		
D6401-6404		LN29RCPP	LED	4	R
D6407,6408		LN29RCPP	LED	2	
D6412		LN49YCPP	LED	1	R
D6413,6414		LN39GCPP	LED	2	R
DK6401		MA154WA		1	R
DK6402		MA154WA		1	
DK6403		MA150		1	R
DK6404		MA150		1	
			RESISTORS		
R6401-6404		ERD25TJ221	220	4	
R6407,6408		ERD25TJ221	220	2	
R6412		ERD25TJ221	220	1	
R6413,6414		ERD25TJ101	100	2	
			SWITCHES		
SW6401		EVQQS107K		1	R
SW6402		EVQQS107K		1	
SW6403		EVQQS107K		1	
SW6404		EVQQS107K		1	
SW6407		EVQQS107K		1	
SW6408		EVQQS107K		1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VJB00636	SUPPLY PHOTO TR C.B.		
Q1504S		PN150NV	PHOTO TR.	1	R
C6701S		ECKF1H102KB	CERAMIC 50V 1000P	1	(CAPACITOR)
	■	VJB00636	TAKEUP PHOTO TR C.B.		
Q1504T		PN150NV	PHOTO TR.	1	
C6701T		ECKF1H102KB	CERAMIC 50V 1000P	1	(CAPACITOR)
	■	VJB00639	SENSOR LED C.B.		
D6701,6702		LN58	SENSOR LED	2	R
			MISCELLANEOUS		
		VMA4795	LED HOLDER ANGLE	1	
		VMD0145	LED HOLDER	1	
	■	VJB00931	REEL SENSOR C.B.		
IC6701		DN6838A	HALL IC	1	R
IC6702		DN6838A	HALL IC	1	
	■	VJB00A19	POWER & REEL DRIVE TR C.B.		
			TRANSISTOR		
Q6401		2SD1268	POWER TR.	1	<!> R
Q6402		2SD1265	REEL DRIVE TR.	1	<!> R
			MISCELLANEOUS		
		VSC0984	HEAD SINK	1	
		N018	INSULATION SHEET	2	
		N024B	INSULATION TUBE	2	
	■	VJB00A40	FRONT CONNECTION C.B.		
			CONNECTORS		
P6801,6802		VJP1229	2P	2	
P6803		VJP1233	6P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
P6811		VJP1229	2P	1	
P6812		VJP1229	2P	1	
P6813		VJP1233	6P	1	
	■	VJB00A41	MECHANISM CONNECTION C.B.		
			CONNECTORS		
P6704		VJP1250	10P	1	
P6705		VJP1242	2P	1	
P6708		VJP1244	4P	1	
	■	VJB00B53	AUDIO VR C.B.		
			RESISTORS		
R6761,6762		EWGANAS93A14	CARIABLE 10K	2	R
			CONNECTORS		
P6764,6765		VJP1235	8P	2	
	■	VJB00C96	ELEVATOR CONNECTION C.B.		
			INTEGRATED CIRCUIT		
IC6751		UPD4011BC		1	R
			TRANSISTORS		
Q6751,6752		2SD636		2	(Q,R) R
			DIODE		
D6751		HZ3CLL	ZENER	1	R
			RESISTORS		
R6751		ERDS2TJ222	2200	1	
R6752		ERDS2TJ104	100K	1	
R6753		ERDS2TJ123	12K	1	
R6754,6755		ERDS2TJ472	4700	2	
			CONNECTORS		
P6751		VJP1245	5P	1	
P6752		VJP1242	2P	1	
P6753		VJP1242	2P	1	
	■	VJB00C97	LAMP C.B.		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
PL6751		VLL0021	LAMP	1	R
PL6752		VLL0021	LAMP	1	R
		VSM0047	CASSETTE IN SWITCH	1	R
	■	VJB00E97	MODE SELECT C.B.		
			RESISTOR ARRAY		
RA6901		EXBP84393K	39K X 4	1	
			CONNECTORS		
P6901,6902		VJP1229	2P	2	
P6903,6904		VJP1230	3P	3	
P6905,6906		VJP1231	4P	2	
P6907,6908		VJP1229	2P	2	
P6909		VJP1242	2P	1	
P6910		VJP1252	12P	1	
	■	VJB00F11	TEST TERMINAL C.B.		
			RESISTORS		
R1		ERDS2TJ473	47K	1	
R2-4		ERDS2TJ102	1K	3	
		VJR0158	TEST PIN	5	
	■	VJB00F29	T.C.CONNECTION C.B.		
			CONNECTOR		
P6762		VJP1108	5P	1	

Ref.No.		Part No.	Part Name & Description	Pcs.	Remarks

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks